

**"Irony in a Second Language:
exploring the comprehension of Japanese speakers of
English"**

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ABSTRACT

This thesis focuses on the extent to which non-native speakers of English understand potentially ironic utterances in a similar way to native speakers. Barbe (1995: 4) sees irony as one of ‘the final obstacles before achieving near native-speaker fluency.’ This assumption is supported by the findings of earlier studies (Bouton 1999, Lee 2002; Manowong 2011; Yamanaka 2003) which assumed a Gricean framework seeing irony as communicating the ‘opposite of what is said’ (Grice 1975, 1978). This thesis adopts instead the relevance-theoretic account of irony as echoic (Sperber and Wilson 1995; Wilson and Sperber 2012), arguing that previous work suffers from both problematic theoretical assumptions and flawed experimental methods.

The thesis reports the findings of two experiments designed to examine similarities and differences between the responses of non-native speakers of English (here Japanese speakers) and native speakers and how similar or different the effects of prosody are for these groups. The first experiment, conducted by an online survey, provided surprising results, suggesting that Japanese speakers can respond to potentially ironical utterances similarly to native speakers. The second experiment, focusing on the effects of prosody, compared the groups with regard to response trends. Three prosodic contours were used in this study, labelled ‘basic’ (a kind of default, unmarked tone), ‘deadpan’ (with a narrower pitch range), and ‘exaggerated’ (with a wider pitch range). The results indicated that Japanese participants could perceive English prosodic structure in similar ways to native speakers and were affected by prosodic contours in similar ways. It also suggested that Japanese participants were affected less strongly by ‘exaggerated’ intonation and slightly more strongly by ‘deadpan’ tones. These findings suggest that a relevance-theoretic framework provides the means to carry out fuller investigations than carried out previously and to develop a more systematic explanation of the understanding of irony in a second language.

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CHAPTER 1 INTRODUCTION

1.1 The present study

The goal of the present study is to contribute to understanding of how second language speakers (in this case, Japanese speakers of English) understand potentially ironic utterances. It applies the echoic account of irony¹ developed within relevance theory (Sperber 1984; Sperber and Wilson 1981,1995; 1998; Wilson 2006, 2009, 2013, 2014a; Wilson and Sperber 2012) which assumes that what has been termed ‘verbal irony’ involves the implicit attribution of thoughts from which communicators implicitly dissociate themselves. On this view, irony is not a clear-cut, easily definable phenomenon. Rather, interpretations can be understood as more or less clearly falling within this characterisation. Utterances are not either ironic or not. Instead, they are more or less likely to be interpreted as implicitly attributive with an implicit dissociative attitude. The thesis explores aspects that make it more or less likely that first language (here, British English) speakers and second language (here, Japanese) speakers interpret utterances in this way. Most previous studies have not adopted a relevance-theoretic approach and have focused on response ‘accuracy’ (assuming that there is a ‘correct’ response regarding whether an utterance is understood as ironic, and also assuming that the responses of first language speakers are always ‘correct’ in this sense). This study focuses instead on a comparison of response trends and processing speed. It is the first study to compare non-native speakers’ response trends in preference for ironical interpretations and processing speed with those of native speakers.

This study takes a relevance-theoretic approach and aims to shed new light on research on L2 irony comprehension. It discusses the nature of irony, contrasting the relevance theoretic account of irony to Grice’s (1975,1978), which most of the previous

¹ I use ‘echoic account of irony’ and ‘relevance-theoretic account’ interchangeably throughout this thesis unless otherwise indicated.

studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011) applied to their investigations. In these studies, the nature of L2 irony comprehension was discussed by describing culture-dependent differences in contextualisation and their reflections in pragmatic strategies for interpretation. By contrast, this study shows that a relevance-theoretic account of irony makes it possible to provide systematic explanation of the nature of L2 irony comprehension involving interaction between social cognition and culture.

Theoretical discussions also show that the relevance-theoretic approach gives a fuller account of ironical interpretation. One crucial difference with the Gricean approach is that this approach does not treat interpretation or the identification of the speaker's intention in potentially ironic utterances in a clear-cut way, in other words as either ironic or not. Hence, the present study explores the extent to which two different groups (of Japanese speakers and British English speakers) respond in similar way by looking into what aspects of an utterance give rise to an ironic interpretation rather than interpreting a given utterance ironically or not. As indicated in the theoretical discussion in chapter 2, clearly there might be a number of other factors involving linguistic, cultural and cognitive aspects that lead to differences between non-native speakers and native speakers in how they understand irony. The present study investigated non-native speakers' recognition of prosodic cues as a first step towards better understanding of L2 irony comprehension mechanisms. Applying suggestions from the relevance-theoretic account of irony, two experiments were conducted to investigate a) understanding of the ironic speaker's attitude; and b) recognition of prosodic cues. The empirical evidence did not support the findings of previous studies (Bromberek-Dyzman and Ewert 2010; Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011; Shively, Menke, and Manzón-Omundson 2008; Yamanaka 2003) that second language speakers have difficulties in interpreting potentially ironic utterances. The

responses of both groups showed that ironic interpretations were predicted according to how the speaker's tone of voice interacts with aspects of the context, and that similar interaction effects were found between Japanese speakers and native speakers. The experimental work reported here suggests the conclusion that Japanese speakers can infer the ironic speaker's attitude in a similar way to native speakers. Nevertheless, Japanese speakers and native speakers demonstrated a slightly different tendency to the particular prosodic contours often described as 'exaggerated (imitation of) tone of voice' (Capelli, Nakagawa, and Madden 1990; Clark and Gerrig 1984; Wilson and Sperber 2012; Wilson 2013, 2014a; Winner 1988). This experimental work suggests that irony comprehension mechanisms may operate in a similar way in L1 and L2. This suggests that the pragmatic principles proposed by relevance theory are universal to some extent.

1.2 Outline of the thesis

The thesis is organised as follows. Chapter 2 discusses pragmatic theories of irony in general (i.e. in a first language). It compares the echoic account of verbal irony² developed within relevance theory with Grice's account, highlighting key differences between these two accounts. It focuses on how the echoic account explains irony with reference to its nature and to the interpretation processes involved in understanding it. The echoic account rejects a central claim of the traditional approaches (that ironical utterances communicate the 'opposite' of the literal meaning) and suggests instead that irony involves an implicitly expressed speaker's dissociative attitude towards an implicitly attributed thought or utterance. The echoic account suggests that ironical utterances are intended to draw the audience's attention to a discrepancy between the reality (a state of affairs) and expectations of the world (Wilson and Sperber 2012:125-

² I used the term 'verbal irony' and 'irony' interchangeably unless otherwise indicated.

6). It argues that no substitution mechanism is required for ironic interpretation: an audience applies the ‘relevance-guided comprehension heuristic’ proposed by relevance theory (Sperber and Wilson 2002; Wilson 2014b; Wilson and Sperber 2002; see also Clark 2013) to processes of hypothesis construction and evaluation about the speaker’s meaning. Interpretation as the result of ‘following a path of least effort’ will vary from occasion to occasion and from individual to individual; an utterance may be understood as ironic on one occasion by one individual and it may be not or less so on another occasion or for another individual. This chapter also considers how prosody contributes to guiding audiences to interpret a potentially ironic speaker’s meaning. The ironic speaker may provide ‘additional’ cues when she doubts the hearer’s ability to recognise her intention using background knowledge alone (Wilson and Sperber 2012) and the speaker’s tone of voice often serves as a contextual cue (Ackerman 1983; Capelli et al. 1990; Cutler 1974, 1976; Kreuz and Roberts 1995; Pexman 2008). It considers findings from experimental studies on the role of prosody/the speaker’s tone of voice, which suggested that prosodic cues lead to ironic interpretation both independently and in interaction with other cues in some contexts (Ackerman 1983; Bryant and Fox Tree 2002; Capelli et al. 1990; Creusere 1999; de Groot, Kaplan, Rosenblatt, Dews and Winner 1995; Dews, Winner, Kaplan, Rosenblatt, Hunt, Lim, McGovern, Qualter, and Smarsh 1996; Keenan and Quigley 1999; Happé 1995; Laval and Bert-Erboul 2005; Nakassis and Snedeker 2002; Rockwell 2000; Woodland and Voyer 2011). Prosody assumed to lead to potentially ironic interpretation has been widely referred to using the term ‘*ironical tone of voice*.’ Although there have been attempts to explore vocal features of ‘*ironical tone of voice*’ (Anolli, Ciceri, and Infantino 2000, 2002; Bryant 2010, 2011, 2012; Cheang and Pell 2007; Bryant and Fox-Tree 2002, 2005; Laval and Bert-Erboul 2005; Milosky and Ford 1997; Rockwell 2000, 2007; Séguin 2007; Scharrer and Christmann 2011; Shapley 1987; Voyer and Techentin 2010), each study

reported mixed results regarding each acoustic dimension (pitch, tempo, and intensity). Some studies raised an objection to the notion that there is consistency in vocal features of an '*ironic tone of voice*'³ (Bryant 2010, 2011, 2012; Bryant and Fox-Tree 2002, 2005; Voyer and Techentin 2010). This study takes these findings and suggestions into account and suggests that prosodic features that potentially guide a hearer to ironic interpretations may vary depending on the context of the utterance and attitudes that the speaker intends to express.

Chapter 3 discusses previous studies on irony understanding in a second language. It discusses suggestions made by previous studies (Bromberek-Dyzman and Ewert 2010; Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011; Shively et al. 2008; Yamanaka 2003) looking closely at two points: 1) how second language speakers understand irony; and 2) what factors may contribute to a difference between first language speakers and second language speakers in ironic interpretation. Previous studies that were conducted within the theoretical framework of Grice's account of irony (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011; Yamanaka 2003) suggested that cultural variations manifest themselves in context construction and inferential strategies (Bouton 1988, 1990, 1992b, 1994a). In light of findings from earlier studies (Bouton 1988, Devine 1982; Keenan 1976), Bouton raised questions about Grice's pragmatic principles as the 'structure' of all languages and his maxims as universal rules of conversations. Some previous studies (Bouton 1992a, 1994a, 1999; Yamanaka 2003) found that the growth of general language proficiency and of time spent in the target language culture appeared to have no or little effect on development of the ability to understand irony, Bouton (1994b, 1999) suggested a 'semantic reversal formula' for the interpretation of irony and claimed to show that explicit instruction was effective in speeding up

³ In the literature, '*ironical tone of voice*' and '*ironic tone of voice*' are used interchangeably.

development of this ability. Other studies, adopting a relevance-theoretic account of irony, suggested that the cognitive comprehension mechanisms involved in L1 and L2 may not be different (Bromberek-Dyzman and Ewert 2010) and that, unlike for native speakers, access to more contextual sources did not necessarily help L2 learners of Spanish understand the ironic speaker's intentions (Shively et al. 2008). While taking culture-dependent differences and second language speakers' awareness of prosodic cues into account, this study argues that ironic interpretation is not governed by a semantic reversal formula. It points out issues arising from both weaknesses of Grice's approach to irony and the nature of sociopragmatic approaches to interlanguage pragmatic competence. Within a relevance-theoretic approach to irony, this study suggests that second language speakers' irony understanding should not be explored by assessing the ability to recognise the opposite of what the speaker said, but by looking into the extent to which they understand the speaker's attitude.

Chapter 4 suggests some new possible directions for empirical work on second language interpretation in general and on the interpretation of potentially ironic utterances in particular. Previous studies discussed culture-dependent differences as a key factor affecting ironic interpretations from a sociopragmatic perspective. There is no reason to deny the importance of a sociopragmatic approach. However, the descriptions in these studies seem to be arbitrary and not to be applied systematically to other instances where cultural variation manifests itself. This chapter aims to complement such approaches with a cognitive approach in order to move towards a more systematic explanation of how culture influences the interpretation of potentially ironic utterances. Adopting ideas from a relevance-theoretic perspective, this chapter reconsiders aspects of culture and explains how cultural differences affect the construction and access of contextual assumptions in ways that lead to L2 interpretations which are different from those of native speakers. This chapter surveys

and reviews studies that have considered cognitive aspects with reference to universality and cultural relativity in the recognition of emotion from prosodic contours and with regard to working memory capacity in relation to L2 processing and outcomes. While these two factors, the recognition of prosodic cues (Lee 2002; Manowong 2011; Yamanaka 2003) and differences with regard to the (more limited) capacity of working memory (Shively et al. 2008), have been mentioned as factors potentially affecting second language speakers' irony interpretations, they have not been fully explored. Some studies (Elfenbein and Ambady 2002a, 2002b, 2002c; Pell, Monetta, Paulmann and Kotz 2009; Paulmann and Uskul 2014) showed that particular basic emotions expressed from the speaker's voice are recognised across human cultures. This was taken to indicate that 'inference rules' for vocal emotion recognition are innately shared across human cultures (Pell, Monetta, Paulmann and Kotz, 2009:519). If such 'inference rules' are indeed universal, it seems plausible to think that second language speakers may recognise the ironic speaker's attitude expressed by means of particular prosodic contours. If not, this might be a potential factor that affects second language speaker's understanding of irony. It also considers findings that suggest possible relationships between L2 processing and the capacity of working memory. If less automatic processing of linguistic inputs makes greater cognitive demands on second language speakers, then this may also be a factor leading to different interpretations.

Chapter 5 reports the empirical work of the present study which aims to take some first steps in one of the directions discussed in the preceding chapter, investigating the role of prosodic cues in guiding the interpretations of Japanese speakers of English as a second language. The results seem to confirm the hypothesis that Japanese speakers understand the ironic speaker's attitude in a similar way to native speakers. Two experiments were conducted with the aim of exploring the fundamental question of the extent to which non-native speakers understand ironical utterances in the same way as

native speakers. The first experiment (an ‘Internet survey’) investigated the research question ‘to what extent do Japanese speakers understand the speaker’s intention of potentially ironical utterances in the same way as native speakers when a stimulus is presented in texts?’ by distributing questionnaires on the Internet. This experiment provided surprising evidence, suggesting that in fact Japanese non-native speakers of English can respond to potentially ironical utterances in a similar way to native speakers of English. The second experiment (a laboratory experiment) investigated the second research question: ‘to what extent does the interaction of tone of voice with context guide Japanese speaker to potentially ironic interpretation in the same way as native speakers?’ by comparing response trends and processing speed with regard to which condition guides addressees towards an ironic interpretation. While a slightly different tendency to react to ‘exaggerated tone’ was observed between the two sample groups, Japanese speakers of English appeared to be able to perceive English prosodic structure in similar ways to native speakers in overall terms.

Chapter 6 presents a general discussion summarising the findings of the two experiments and the theoretical discussion in the preceding chapters. A significant finding of the present study is that Japanese speakers of English can recognise the speaker’s dissociative attitude indicated by prosodic contours in a similar way to native speakers, which indicates the possibility that English verbal irony is understood cross-linguistically and cross-culturally. Findings of the present study highlight that a relevance-theoretic framework has provided scope for a fuller investigation and more systematic explanation of irony understanding in a second language than previous studies. The question of whether observed differences in the effects of an ‘exaggerated tone’ are a reflection of cultural variability has not been explored fully in the present study. It would be interesting to explore the implications of this work for understanding linguistic and cultural influences on the recognition of prosodic information. The

present study is a first step in exploring L2 irony comprehension, which seems to be a very complex, 'tangled web' phenomenon in which linguistic, cultural, social and cognitive aspects are involved. The challenge remains for future research to explore possible factors and to investigate situations where such factors affect the interpretation processes of ironical utterances.

CHAPTER 2 IRONY IN L1 CONTEXTS

2.1. Overview

This chapter discusses how irony comprehension (in a first language) has been explored within the echoic account of irony (Sperber 1984; Sperber and Wilson 1998; Wilson 2006, 2009, 2012, 2013, 2014a; Wilson and Sperber 1992, 2012), which this study adopts as a theoretical framework. The echoic account of irony claims that verbal irony is a vehicle for expressing implicitly the speaker's dissociative attitude towards a thought that the speaker tacitly attributes to others. A key claim of the echoic account is that irony is not a natural kind, i.e. that it is not an easily definable phenomenon.

This chapter contrasts this account with a much less developed account, the Gricean approach (1975, 1978), which is adopted by many of the previous studies on L2 irony comprehension. In a Gricean account, irony is taken as communicating the opposite of what the speaker has said. The processes of an utterance as ironic is seen as being triggered by a blatant violation of the maxim of quality and this gives rise to another related proposition that is 'the contradictory of the one he purports to be putting forward (Grice 1975:53)'. The echoic account rejects this idea and suggests instead, that ironical utterances echo a thought or an utterance attributed to specific people, or to people in general. The echoic account does not see irony as a special case of language use, suggesting that irony does not need to be taught or learned. According to the echoic account, no substitution mechanism is required for the comprehension of irony. Ironical interpretation involves cognitive mechanisms generally used in language comprehension, guided by the 'relevance-guided comprehension heuristic.'

This chapter also discusses what has been considered a characteristic tone of voice which serves as a natural but optional cue to the speaker's communicative intention. This has been often referred to as '*ironical tone of voice*.' In the fields of psychology and developmental studies numerous experiments (Ackerman 1983; Bryant & Fox Tree

2002; Capelli, Nakagawa, and Madden 1990; Creusere 1999, 2002; de Groot, Kaplan, Rosenblatt, Dews & Winner 1995; Dews, Winner, Kaplan, Rosenblatt, Hunt, Lim, McGovern, Qualter, and Smarsh 1996; Keenan & Quigley 1999; Happé 1995; Laval & Bert-Erboul 2005; Nakassis & Snedeker 2002; Rockwell 2000; Rosenblatt, Swinney, Gardner, and Winner 1987; Woodland & Voyer 2011) have carried out and provided evidence for contributions of the speaker's characteristic tone of voice to irony comprehension. On the other hand, the detailed prosodic features of '*ironical tone of voice*' are hard to pin down. There has been little agreement on prosodic features or acoustic features that systematically give rise more strongly to potentially ironic interpretation. Some studies (Bryant and Fox Tree 2002, 2005) have pointed out that the term '*ironical tone of voice*' has been used loosely and argued that 'there is no particular ironic tone of voice (Bryant and Fox-Tree 2005:257). They suggest that if there is no consistency in its systematic voice features, it should not be termed as '*ironical tone of voice*'. This chapter surveys and discusses the findings from the experimental studies on a characteristic tone of voice which are associated with ironical utterances. This gives a direction to the empirical work of this study, which investigates how second language speakers recognise prosodic cues in ironical utterances. The present study considers that the type of tone in which ironical utterances can be produced may be varied.

This chapter is organised as follows: the next section presents some of the insights yielded by Wilson and Sperber's echoic account (2012) for irony (in a first language). In the literature on verbal irony, there is a vast number of theories of irony (for a brief summary, see Gibbs and Colston 2007:3-21). Each theory accounts for the nature, features, functions and comprehension of verbal irony and not all of the theories consider verbal irony as echoing a thought attributed to others. For example, some of them still treat irony as a 'trope', or others consider it a figure of speech, a type of

‘negation’, a kind of ‘inappropriateness,’ a ‘violation of the Quality maxim’, a violation of ‘graded salience’, an ‘insincere speech act’, a type of ‘pretense’, a ‘reminder,’ an ‘echoic allusion,’ and a ‘miscommunication’.⁴ A full discussion of each theory is beyond the scope of this thesis and it is not part of the aims of this study. Instead, this section focuses on two theories, namely the echoic account of irony and Grice’s approach to irony (1975, 1978), which relate to the aims of the present study. Most of the previous studies (Bouton 1988, 1990, 1992a, 1992b, 1992a, 1994b, 1996, 1999; Devine 1982; Lee 2003) have applied Grice’s inferential approach to communication, Cooperative Principle and maxims, and his idea of ‘conversational implicature’ to their investigations of non-native speakers’/second language speakers’ pragmatic ability to understand the speaker’s implied meaning. The present study argues that problems with previous studies arise largely from their theoretical assumptions. This section first discusses Grice’s approach to irony. Then, it presents the insights of the echoic account by starting with the relevance-theoretic idea of ‘interpretive use of language.’ Next, it looks closely at the nature of irony and echoic features of irony. It discusses how claims differ from each other, highlighting ways in which the echoic account gives fuller explanations than Gricean accounts. This section ends by discussing the interpretation of potentially ironical utterances based on the ‘relevance-guided comprehension heuristic’.

Section 2.3 considers the ‘*ironical tone of voice.*’ This section starts by discussing how prosody contributes to the speaker’s meaning. Then, it focuses on the notion of a characteristic tone of voice. It looks closely at its role in guiding hearers towards

⁴ See Clark and Gerrig (1984) on Pretense Theory, Kreuz and Glucksberg (1989) on Echoic Reminder Theory, Martin (1992), Kumon-Nakamura, Glucksberg, and Brown (1995) for Allusional Pretense Theory, Giora and Fein, (1998) and Giora, Fein and Schwartz (1998) for irony as graded salience and indirect negation, Colston (2000) for intentional violation of Gricean conversational maxims, Anolli, Infantino, and Ciceri (2002) for irony as miscommunication Attardo (2001) for irony as inappropriateness, Utsumi (2000a) for Implicit Display Theory, Partington (2007) for irony as reversal of evaluation, Pálincás (2014) for irony as a matter of thought, Garmendia (2011, 2015) for Asif Theory; see also Martin (1992), Barbe (1995), Yus (1998, 2000), Seto (1998), Clift (1999), Curcó (2000), Gibbs and Colston (2007), Garmendia (2010, 2013, 2014), Dynel (2013, 2014), Popa-Wyatt (2014).

potentially ironical interpretation and presents how the echoic account explains the ‘*ironical tone of voice*’ as one of the distinctive features of irony which differentiate irony from other type of figurative language (e.g. metaphor). It also summarises empirical evidence for prosodic contributions to potentially ironical interpretations. Next, it discusses experimental studies which highlight that vocal features of the ‘*ironical tone of voice*’ are diverse (Anolli, Ciceri, and Infantino 2000⁵, 2002; Bryant 2010, 2011, 2012; Cheang and Pell 2007; Bryant and Fox-Tree 2002, 2005; Laval and Bert-Erboul 2005⁶; Milosky and Ford 1997; Rockwell 2000, 2007; Séguin 2007; Scharrer and Christmann 2011⁷; Shapley 1987; Voyer and Techentin 2010). Because of variety in prosodic features of the speaker’s characteristic tone reported in those studies, use of the term ‘*ironical tone of voice*’ has been challenged in the literature (Bryant & Fox Tree 2002, 2005). The focus here is on debate about whether there is a particular set of acoustic features that can systematically apply to different ironical utterances used on different occasions. The section concludes by explaining assumptions made in the present study with regard to the notion of a characteristic tone of voice and features of prosodic contours in potentially ironical utterances.

2.2 The echoic account of irony

2.2.1. *The Gricean approach to irony*

This section presents how Grice (1975, 1978)) treated verbal irony within his approach, based on his Cooperative Principle and maxims for communication.

Grice never proposed a model or a theory of irony per se. In fact, he made only a few comments on irony in his William James Lectures delivered at Harvard University in 1967, which were widely shared as photocopies before finally being published, beginning with the paper ‘Logic and conversation’ in 1978. His main claim here was

⁵ This study was conducted by using native speakers of Italian and a material in Italian.

⁶ Participants in the study of Laval and Bert-Erboul (2005) were native speakers of French.

⁷ The study of Scharrer and Christmann tested performances of native speakers of German on German ironic criticism.

that the interpretation of an utterance as ironic was triggered by a blatant violation of the maxim of quality which gives rise to the assumption of a related proposition that is 'the contradictory of the one he purports to be putting forward (Grice 1975:53). Grice's notion of the speaker's blatant flout is based on his Cooperative Principle and the maxims for communication. He (Grice 1975, 1978) proposed an inferential model of communication, claiming that communication, both verbal and non-verbal, involves the expression and recognition of intentions: the speaker provides 'evidence' of her intention to convey a certain meaning and the hearer will infer this intended meaning based on the evidence provided. Grice (1978) suggested that the speaker's intended meaning was not recovered by decoding but inferred by 'a process of hypothesis formation and evaluation' (Wilson 1994). A rational inference involves making logically possible hypotheses about the speaker's intention through linguistic decoding and contextual assumptions, and choosing the best hypothesis by evaluation based on a Co-operative principle of communication and maxims of truthfulness, informativeness, relevance, and clarity which speakers are expected to obey. Thus, any hypotheses that do not satisfy these expectations can be automatically ignored. In other words, the hearer should choose the hypothesis that best satisfies these expectations. Grice suggested that communication or 'what is communicated' consists of two aspects: 'what is said' by an utterance (what proposition was explicitly expressed) and 'what is implicated.' Recovery of 'what is said' involves knowledge of linguistic meaning, disambiguation and reference assignment, which Grice did not assume was governed by the maxims. On the other hand, according to Grice, 'what is implicated' comprises 'conventional implicature' and 'conversational implicature.' In his model, while 'conventional implicatures' are encoded by linguistic expressions and their recovery does not involve the context and inference, 'conversational implicatures' are all context-dependent and recovery of 'conversational implicatures' involves maxims of

conversation. Grice also claimed that the speaker can deliberately violate a maxim to communicate something more than what was said. According to him, ironic interpretation involves such a blatant flout of the Maxim of the quality at the level of ‘what is said.’

Grice (1975, 1978) reanalysed the figurative meanings of tropes as ‘conversational implicatures,’ with their interpretations seen as highly context-dependent. Based on the idea that there is a sharp distinction between ‘literal’ utterances and ‘non-literal’ utterances, he claimed that the speaker of utterances of varieties of figurative language has said (or ‘made as if to say’) something which is blatantly false. He continued to suggest that such a blatant violation of the Maxim triggers interpretation processes leading to the recovery of an implicature. The hearer, assuming that the speaker is obeying the Cooperative Principle, looks for an alternative interpretation, in other words a ‘related proposition’. Grice suggested that the related proposition was different depending on the type of trope, i.e. different for each of irony, metaphor, hyperbole, and meiosis, but that the nature of the inferential processes involved in understanding figurative utterances was the same for each type. In the case of irony, the speaker blatantly violates the first maxim of quality (do not say what you believe to be false) and implicates a related proposition, communicating the opposite of what the speaker said. The speaker of a metaphorical utterance implicates a related proposition which is a related simile or comparison (Wilson 2014a: Clark 2013:254, 283). Here is the example of irony introduced by Grice (1975:53):

(X has betrayed a secret of his close friend A to a business rival. A said to his audience who knows what X has done to A,)

A: *X is a fine friend.*

Grice (1975:53) suggested that it is perfectly obvious to both A (the speaker) and A’s audience (the hearer/s) that ‘what A has made as if to say is something he does not

believe.’ His audience knows that A has blatantly violated the maxim of quality and that his blatant violation is deliberate, and constructs an implicature, which is that X is not a fine friend. His audience then assumes that A must intend to get across some proposition other than ‘what he has said or has made as if to say’ (1975:53). The other proposition, which Grice described here as ‘the most obviously related proposition (1975:53),’ is the contradictory or the opposite of what A said. Therefore, the hearer expects to consider a literal interpretation first. It is only when the literal interpretation turns out to be blatantly false that the hearer starts looking for possible figurative interpretations. Thus, for Grice, the proposition communicated by irony is ‘the contradictory of the one he purports to be putting forward,’ and ironic interpretations are like interpretations of other tropes, depending on the hearer’s ability to recognise the speaker’s deliberate and blatant violation while he assumes that the speaker is being cooperative. Recovery of an implicature may be triggered by this recognition and the hearer tries to look for meaning substitution in order to recover the speaker’s intended meaning.

Grice (1978:124) also discussed the ironic speaker’s attitude by introducing another example, which he saw as problematic for his account:

An and B are walking down the street, and they both see a car with a shattered window. B says, *Look, that car has all its windows intact.* A is baffled. B says, *You didn’t catch on; I was in an ironical way drawing your attention to the broken window.* (Grice 1978:124)

Grice (1978) acknowledged that something was missing from his earlier analysis of irony (1975). He claimed that, while meeting all the conditions for irony that he proposed, the speaker ‘say or makes as if to say’ something blatantly false intending to implicate the opposite, there is no irony in this example. Grice (1978) suggested that it needed to involve the speaker’s expression of a characteristic attitude. Uttering this sentence without expression of such attitude was absurd, and Grice suggested that irony

‘intimately’ involves the expression of a feeling, attitude, or evaluation. What is needed to get this example to be taken as irony is, Grice suggested (1978:124), reflection of a ‘hostile or derogatory judgement or a feeling such as indignation or contempt.’ He did not discuss the ironic speaker’s attitude further. Grice did not fully discuss the question of whether a specific tone, the ‘ironic tone’ must accompany an ironical remark. He assumed that ‘an ironic tone is always a contemptuous tone, or an amused tone, or some other tone connected with one or more particular feelings or attitude (1978:124).’ He only suggested a possibility that if such contemptuous or amused tone was associated with a remark that is blatantly false, then that remark would indicate the opposite.

Grice’s theory of the Cooperative Principle and Maxims was a step towards a genuinely explanatory account in which pragmatically derived implicatures account for figurative meanings. In classical rhetoric where verbal irony was defined as a trope, it was considered that irony involved deviations from the norm, and was governed by apparently arbitrary rhetorical rules or conventions. Rhetoricians treated verbal irony as a decorative way of literally saying one thing and figuratively meaning the opposite. Traditional approaches to verbal irony in the field of linguistics regarded irony in a similar way to classical rhetoric. Interpretation of irony was assigned by the grammar and involved ‘semantic reversal’ that is, literally saying one thing and figuratively meaning the opposite. Instead, Grice claimed that interpretations of tropes could not be dealt with by grammatical or semantic rules. As discussed above, for Grice the interpretation of an ironical utterance was pragmatically inferred. However, his suggestion about ‘what is implicated,’ in other words ‘conversational implicature,’ in the case of irony was not different from the one suggested by classical rhetoric and traditional approaches, in that it preserved the idea that the pragmatically inferred meanings of ironical utterances were the opposite of what the speaker said. This indicates, as Wilson (2006) pointed out, that what Grice proposed as an inferential

model for figurative language amounted to not much more than a mere substitution of a pragmatic mechanism for a semantic one.

2.2.2 Irony as echoic use of language

The echoic account of irony (Sperber 1984; Sperber and Wilson 1998; Wilson 2006, 2009, 2012, 2013, 2014a; Wilson and Sperber 1992, 2012) is developed within the framework of relevance theory advanced by Sperber and Wilson (1995). ‘Echoic use’ or ‘echoic use of language’ is a technical term in relevance theory (Sperber and Wilson 1995 Chapter 4, section 7). Before presenting the detailed predictions of the echoic account of irony, I will briefly summarise how relevance theory explains a theoretical distinction between ‘descriptive’ and ‘interpretive’ representations.

Within the framework of relevance theory (Clark 2013, section 9, section 10; Sperber and Wilson 1995 section 7, section 9, Wilson and Sperber 2002), utterances are used in two ways: 1) to communicate information about a state of affairs (including descriptions of it), and/or 2) to express the speaker’s own belief, opinion, and attitudes. Relevance theory claims that the propositional form of an utterance is an interpretation of a mental representation of the speaker, which can be used as either ‘descriptive’ or ‘interpretive’ (Clark 2013; Sperber and Wilson 1995, Wilson and Sperber 2002). Here are some examples:

- (1) Paul: *Mark is getting another drink at the bar.*
- (2) Alex: What is Mark doing?
Paul: *He said he was getting another drink.*
- (3) Alex: What is Mark doing?
Paul: *He is getting another drink.*
- (4) Alex: What is Mark doing?
Paul: (Paul says nothing, just rolling his eyes and shaking his head.)
Alex: Oh, okay, I got it. *He is getting another drink.*

Example (1) is a typical example of ‘descriptive use’ of language, which is an utterance used to describe or present information of an actual state of affairs. In this case, Paul, the speaker, describes what Mark is doing at the time of the conversation. In a

descriptive use of language, the state of affairs which the utterance represents may be taken to be true or false. Thus, Paul in (1) commits himself to the truth of the proposition expressed in his own utterance. ‘Interpretive use’ of language on the other hand, is used to either interpret some other utterance or thought (an actual representation), or to interpret a desirable representation.⁸ It is not a direct description of a state of affairs but an interpretation of an actual representation that it resembles in content. There are several cases where an utterance is used to interpret an actual representation.⁹ All of (2) – (4) above are examples of interpretive use but they achieve relevance in different ways. An indirect report of speech is, according to relevance theory (Sperber and Wilson 1995:238), a good example of interpretive use. Consider (2) above. Paul is informing the audience about what Mark said. Paul’s utterance may be an exact reproduction of what Mark said to him, or may resemble it enough for Alex (the hearer) to get what Mark was doing. What this utterance of Paul achieves here is providing Alex evidence for some of the conclusions that could be derived from the original utterance of Mark (Clark 2013:260). In ‘interpretive use,’ the speaker represents a thought or utterance (or other representations with a conceptual content) that it resembles in content by sharing contextual implications with the thought or utterance it represents (Clark 2013:259). This is an interpretation of a desirable (e.g. relevant) representation. Other varieties are called ‘*attributive use*.’ ‘*Attributive use*’ is an interpretation of an actual representation that the speaker attributed to someone else.¹⁰ Compare the example (3) with (2), where the only difference is that Paul did not say ‘he said’ in (3). If (3) is taken as a report of speech in the same way as (2), this can

⁸ Here an interpretation of a desirable representation is not considered since it does not involve figurative language (see Clark 2013:261).

⁹ Note that interpretive use of language is not limited to verbal communication: it is also found in written texts such as reports, summaries, translations and newspaper headline.

¹⁰ In some literature, the term ‘interpretive use’ and the term ‘attributive use’ are used interchangeably. Relevance theory defines ‘attributive use’ as one of several sub-varieties of a more general category of ‘interpretive use’. This study uses ‘attributive use’ distinguishing it from the other sub-varieties: see Sperber and Wilson 1995, Wilson 1999, 2006.

be Paul's interpretation of an actual utterance of Mark (attributed utterance). At the same time, it is also possible that (3) is expressing what Paul thought of Mark's behaviour, in other words, Paul's own interpretation. In this case, it may be possible that Mark did not say anything to Paul but instead he waved a five-pound note at the bar counter. Paul interpreted Mark's behaviour as showing that he was getting another drink. Mark might in fact, simply have wanted to ask a bartender to change his note for coins. The speaker attributes her utterance to someone else or herself¹¹ at a different time to express her attitudes, beliefs or opinions about it. Next, consider (4). The speaker, Alex, does not describe the state of affairs or report information about Mark's doing, but she represents the content of the thought that she thinks Paul has in his mind. Notice that Alex's utterance 'he is getting another drink' (the attributed thought) may or may not be identical to the original. It does not matter so much as long as an utterance resembles the original in content to some degree. It is important that Alex's utterance is 'echoing' some implications of Paul's thought that Alex has derived from Paul's body language. This is what relevance theory calls an '*echoic use*' which is defined as a sub-category of '*attributive use*'. '*Echoic use*' serves to show that the speaker intends to express her own attitude or reaction to an attributed thought (Clark 2013 chapter 10; Sperber and Wilson 1995 chapter 4, section 9; Wilson and Sperber 2002:270-274; Wilson 2013:46). Then, what makes the difference between '*echoic use*' and the other varieties of '*attributive use*'? The expression of the speaker's attitude towards the attributed thought or utterance is the key to differentiate echoic use from other attributive use. Wilson and Sperber (2002) explain that 'an [An] utterance is echoic when it achieves most of its relevance not by expressing the speaker's own views, nor by reporting someone else's utterances or thoughts, but by expressing the speaker's attitude to views she tacitly attributes to someone else (p.271).' Thus, while Paul in (3)

¹¹ In this thesis, the speaker is described as 'she' and the listener as 'he' to simplify the use of gendered pronouns, unless otherwise.

is expressing his own opinion or view (what he saw about Mark at the bar), Alex, the speaker in (4) is clearly expressing her attitude towards it. Notice too, that Paul's utterance in (3) can be taken as an expression of his attitude towards Mark (e.g. Paul's attitude toward the fact that Mark does not know his limits when it comes to consumption of alcohol, etc.). According to relevance theory (Sperber and Wilson 1995), there is no limit to the type of speaker's attitude that can be expressed in echoic use, which is very rich and varies from positive/approval attitudes to negative/disapproval attitudes or any combination of some attitudes on the scale.

Within relevance theory verbal irony is treated as one type of '*echoic use*'. What makes irony different from other types of '*echoic use*'? It is the speaker's intention to express her attitude towards the attributed thought or utterance 'tacitly', in other words, 'implicitly'. Thus, irony involves tacit expression of the speaker's attitude from a dissociative range towards the attributed thought/utterance. Consider another example of irony (5) below:

- (5) (Paul runs after Mark who is very drunk and sees Mark staggering back against the rail of the bar and slurring his words.)
Paul: What are you doing?
Mark: I need another drink.
Paul (dryly): *That's just what you need.*

Compare this example with (4) above. Both (4) and (5) are examples of attributive use and the speakers in both examples are echoing the attributed thought/utterance in a similar content, but only (5) can be treated as irony. The attitude that Alex in (4) intends to express is her sympathy towards Paul. Suppose that Mark has a reputation as a drunkard. Paul always takes care of his best friend Mark who quite often ends up being in a state of total inebriation. Alex knows all the troubles Mark has caused Paul in the past. Alex anticipates what is going to happen at the end of the night (such as having to apologise to staff at the bar for Mark's misbehaviour, helping a totally drunk Mark into a taxi or seeing Mark safely home, etc.) and sympathises with Paul. By contrast in this

example (5), Paul dissociates himself from the idea that Mark needs more drink when it is obviously high time for Mark to stop drinking. The attitude Paul intends to express here would be a disapproving one towards Mark's thought and behaviour. The point is that Paul is echoing an actual utterance of Mark's ('I need another drink') and is implicitly expressing his disapproving attitude towards the attributed thought ('He needs another drink'). This is an example of verbal irony. Consider the following (6a) - (6c) which all are the example of 'echoic use'¹²:

Nancy: I've finally finished my thesis!

(6a) Bill (happily): *You've finished your thesis!* Let's celebrate!

(6b) Bill (cautiously): *You've finished your thesis!* Really completely finished?

(6c) Bill (dismissively): *You've finished your thesis!* How often have I heard you say that?

In (6a) – (6c), Bill echoes Nancy's utterance ('*You've finished your thesis!*'), which is linguistically identical, but as the second utterance of each example shows, the resulting implications communicated by Bill are different. In (6a), Bill believes the proposition literally expressed by Nancy's utterance, which is that she completed the thesis she had been working on for a long time. Bill expresses his own positive attitude towards the attributed thought (/utterance). By contrast, in both (6b) and (6c), Bill doubts the truth of it from the fact that he knows Nancy had repeatedly failed to meet the promised deadline in the past. Bill is not fully convinced that Nancy has finished her thesis for sure. There are some differences between these two examples that are important in order for them to be taken as irony: the attitude Bill intends to express towards the attributed utterance, and the way he expresses his attitude. In (6b) the attitude that Bill is expressing may be sceptical. By contrast, in (6c) Bill expresses his disgust or resignation as a reaction. Bill in (6b) may believe some of the proposition literally expressed by Nancy's utterance (e.g. 'Nancy may have finished her thesis this time').

¹² This example was adapted slightly from Wilson and Sperber (2012:131) in which they contrast different attitude expressed by the same utterance.

On the other hand, in (6c) it was obvious to Bill that what she said was far from the truth. Bill in (6c) dissociates himself from his utterance but not in (6b). Another difference is that while in (6b) Bill is openly expressing his doubt, in (6c) Bill's expression of his attitude is implicit. Thus, only (6c) but not (6b) exploits features of irony. Irony involves not only attributive but also implicit expression of dissociative attitude and this distinguishes irony from other types of '*attributive use*' or/and '*echoic use*' (Wilson 2006:1732).

2.2.3 Predictions of the echoic account of irony

This subsection presents features of irony that the echoic account (Sperber 1984; Sperber and Wilson 1981,1995; 1998; Wilson 2006, 2009, 2013, 2014a; Wilson and Sperber 2012) predicts. It spells out key aspects of irony (indicated in italics below). It also highlights an essential prediction that irony is not a clear-cut language phenomenon, in other words, utterances cannot be classified straightforwardly as irony or not irony. Rather, utterances can be more or less ironic depending on the extent to which they contain key aspects of the features of irony.

The echoic account explains that irony necessarily involves '*a tacit/implicit expression of the speaker's dissociative attitude*' towards an implicitly '*attributed thought (or utterance)*' and it also involves an '*echo*' of the attributed thought in a '*similar content*' ('*resemblance*') to the original or to some '*source*' other than her at the current time. Wilson (2006, 2013) and Wilson and Sperber (2012) explain that the attitude is one from the dissociative range that includes attitudes which can be described as mocking, resignation, derogatory, scornful, contemptuous, bitter, mean, hurtful, and so on. They suggest that the '*thought (or utterance) attributed*' varies from actual utterances to a proposition expressed at an earlier time or a thought in general such as shared knowledge, an unexpressed belief, hope, wish, fear, or norm-based expectations. The '*source*' of the attribution also varies; some have real sources such as a specific

person (including the speaker herself at the different time), a type of person or group of people, or a human in general, whereas others have only a vague or imagined origin. Sperber and Wilson (1998:284) stress that the term ‘*echo*’ used in relevance theory is not restricted to echoing of actual words or utterances (for further discussion see Sperber and Wilson 1998). ‘*Echo*’ of the attributed thought may range from immediate echoes to delayed ones (‘*degree of echoing*’). The speaker may echo the attributed thought with identical content, a summary, paraphrase, exaggeration, elaboration or implication of the original (‘*resemblance*’). Some may be more explicit with overt linguistic forms (interjections, discourse particles, quotation marks, parentheticals, etc.), and some may not. Consider the following examples.

- (7) Mary (after her audition for a new film went terribly wrong): *That went well.*
- (8) Susie (on a day when things go wrong one after another):
I'm having a wonderful day.
- (9) (when the approval rating of the French President drops to 13%):
President Hollande is the most charismatic president in the French history of post-revolution.

As in (5) above, none of the speakers in (7) - (9) commits themselves to the proposition literally expressed in their utterance. They intend not to inform their audience of the opposite of the proposition literally expressed but to express their attitude implicitly towards a thought or utterance which is tacitly attributed to others. So in (7), Mary does not commit herself to the truth of this assertion and expresses her mocking attitude towards the hope or expectation that she had earlier. If she said to someone before an audition that she was quite confident of getting a role, then she is representing her earlier utterance and expressing her attitude towards her own stupidity or naivety in expecting that she would get the role. In either case, the source of an attributed thought or utterance is the speaker Mary herself at a different time. Imagine another scenario where her agent had reassured Mary before an audition that she would get an offer to play a role in a new film. In this case, the source is specific to her agent and Mary

expresses her attitudes towards her agent or her own naivety to believe her agent, or both. This is in contrast to (8), which involves a representation of the speaker's unexpressed expectation. Generally, humans subconsciously have expectations about how things should be or should not be. They do not necessarily express out loud such expectations based on socially shared norms. Susie had a hope in her mind that her day would go smoothly without any troubles, and when she discovers the state of affairs falls short of her expectation, she echoes such an unexpressed expectation in a paraphrase in order to show her feeling of resignation or her mocking attitude towards it. The speaker in (9) finds ridiculous the opinion that President Hollande is the most charismatic president when the reality is that the approval rating of President Hollande has hit rock bottom, clearly showing that he is not great as a president of the country or as a politician. She dissociates herself from that opinion and expresses her own attitude of mockery towards it or a specific person or a group of people who believe such an opinion.

The key point of irony, according to the echoic account of irony, is that the attribution and expression of a dissociative attitude are necessarily implicit or tacit.

Wilson (2006:1733) explains this feature of irony by using the following example¹³:

Mary and a friend have been watching Peter lose very badly at tennis. At the end of the match, Peter comes up to them and says (seriously) 'I almost won.' Mary turns to her friend and says, wryly, one of the following:

- (10a) He says he almost won.
- (10b) He almost won, he thinks.
- (10c) He almost won. Allegedly.
- (10d) He almost won. Not.
- (10e) He almost won. Huh!
- (10f) Poor fool. He thinks he almost won.
- (10g) He almost won.

¹³ This scenario and the example utterances cited here are not ones used in this study. They are taken from Wilson (2006:1733).

(10a) - (10g) are examples of utterances that interpretively used. The speaker in all examples attributes her utterance to Peter's serious thought that he almost won but they are different in terms of how explicitly or implicitly the attribution made and Mary's attitude is expressed. Except for (10g), (10a) - (10f) are all linguistically marked. The differences are that explicit forms of reported speech in (10a) - (10c) (indicated with a single underline) mark the utterance as attributive. 'Linguistic indicators' in (10d) - (10f) (indicated with a double underline) may explicitly indicate the attitude. As Wilson suggests, because of these 'linguistic indicators' in (10d) - (10f) Mary's expression of a dissociative attitude to the attributed thought is conveyed less tacitly. Therefore, only (10g) which exploits the features of irony (i.e. involving tacit attribution and implicit expression of dissociative attitude) is considered as a typical case of verbal irony.

The echoic account of irony (Wilson and Sperber 2012:138) treats the property of being 'echoic' as a distinctive feature of irony and proposes that 'n[N]o irony without an ironical attitude, no ironical attitude without an echoed attributed thought as its object.' Another way to say this is that '*echoic use of language*' serves to show the speaker's tacit attribution and implicit expression of dissociative attitude. There have been studies investigating irony comprehension of adults which provide evidence to support this claim (Jorgensen, Miller, and Sperber 1984; Gibbs 1986, 1989; Kreuz and Glucksberg 1989; Keenan and Quigley 1999; Kumon-Nakamura, Glucksberg, and Brown 1995; McDonald 2000). The results of these experiments suggested that echoing an attributed thought attracts attention from hearers, and that the presence of such an echoic source makes it easier for hearers to recognise that the speaker is being ironic. Jorgensen, Miller, and Sperber (1984) tested the echoic account and provided insightful

evidence to support its claims. They suggested that the standard theory and mention theory¹⁴ claim a different condition for the speaker to be taken as ironic as follows:

For the standard theory, a sufficient condition is that the speaker's communicative intention could not be to assert the proposition literally expressed by the utterance, since the speaker manifestly expects the hearer to realize that the speaker believes the opposite of that proposition.

For mention theory, this is not a sufficient condition, but it needs to be used in conjunction with a condition in which the propositional content of the utterance literally understood matches at least in part that of some identifiable utterances, thought, intention, expectation, or norm which it can be taken to echo.

Jorgensen, Miller, and Sperber (1984:116)

They conducted a reading comprehension test. One of the testing materials satisfied the first condition but did not satisfy the second one. The other material of the echoic version satisfied both conditions by including antecedents to echo. They compared judgements for irony or sarcasm depending on the testing material. Here is one of the six anecdotes used in the experiment:

"The Party": The party was at the Clarks', but Joe didn't know where Mr. Clark lived. "It's on Lee Street," Irma told him. "You can't miss it." But Joe did miss it. He never would have found it if Ken hadn't seen him wondering down the street and led him to the Clarks' apartment. They lived over a store, and their apartment door was right on the sidewalk. Irma was already there when they arrived.

"You're late," she called to Joe.

"The Clarks have a beautiful lawn," he replied.

Jorgensen, Miller, and Sperber (1984:117)

Jorgensen et al. (1984) argued that Joe's final utterance should be interpreted as ironic since this anecdote satisfied the condition of the standard theory. On the other hand, from the point of view of the mention theory, Joe's utterance only would be taken as odd or puzzling without an antecedent utterance to echo. Thus, they included the antecedent in Irma's first utterance in the echoic version (the antecedent added is shown in italics).

"The Party": The party was at the Clarks', but Joe didn't know where Mr. Clark lived. "It's on Lee Street," Irma told him. "*It's the house with the big maple tree*

¹⁴ The echoic account was once called a 'mention theory.' Wilson and Sperber (2012:124 footnote 5) explain that '...in those early days of relevance theory, we used 'mention' (in an extended sense of the term) to describe what we would later call 'interpretive use' (of which attributive uses are a subtype ...). In the first edition of Relevance (1986), we gave up this use of 'mention' and have talked since then of the 'echoic' theory of irony.'

on the front lawn. You can't miss it." But Joe did miss it... (the rest of the anecdote was the exactly the same as the one above)

Jorgensen, Miller, and Sperber (1984:117)

The results lend support for the mention theory. There was a significant interaction of the antecedent in the echoic version. Jorgensen et al. (1984:118) suggested the conclusion that 'people do not perceive an implausible nonnormative utterance as ironic unless it echoes some antecedent use, which is the outcome predicted by the mention theory of irony. Not only is echoing essential for irony to succeed but also the more salient the echoic element is, the more likely and easily the irony is to be recognised (Wilson 2014a:7). Some other psychological studies have tested the role of echo in understanding irony by using negative statements (Hancock, Dunham, and Purdy 2009; Harris and Pexman 2003; Kreuz and Glucksberg 1989; Pexman and Glenwright 2007; Pexman and Olineck 2002b). Kreuz and Glucksberg (1989) have experimentally confirmed the importance of an echoic feature in such a case They investigated how the presence of an explicit antecedent negative or positive statement affects ironical interpretation. Here are examples they used in their tests (explicit antecedents are in italics):

[negative statement]

Nancy and her friend Jane were planning a trip to the beach.

'It's probably going to rain tomorrow', said Jane, who worked for a local TV station as a meteorologist. The next day was a warm and sunny one. As she looked out of the window, Nancy said, 'This certainly is awful weather.'

[positive statement]

Nancy and her friend Jane were planning a trip to the beach.

'The weather should be nice tomorrow', said Jane, who worked for a local TV station as a meteorologist. The next day was a cold and stormy one. As she looked out of the window, Nancy said, 'This certainly is beautiful weather.'

Kreuz and Glucksberg (1989:377)

Based on the results from three experiments, Kreuz and Glucksberg (1989:382-383) suggested the conclusions that the influence of an explicit antecedent was greater in order for negative statements to be taken as what Kreuz and Glucksberg called 'sarcastic' whereas it was not reliably influential for positive statements. They also

suggested that their data provides evidence that the presence of an explicit antecedent makes interpretation of potentially ironical utterance readily accessible, which agrees with findings of the study by Jorgensen et al. (1984).

One of the essential predictions of the relevance-theoretic account of irony (the echoic account) is that irony is not a natural kind (Wilson 2006:1733). The relevance-theoretic account suggests that where irony stands within the range of interpretively used utterances (interpretive use, attributive use, and echoic use) is much less clear-cut. Wilson (2006:1732-33) refers to '*the gradual borderline*' that distinguishes between irony as 'echoic use' and other types of 'echoic use,' '*the gradual borderline*' between the attitude expressed by irony and the one expressed by other types of echoic use, and '*the gradual borderline*' between overt attribution and tacit one:

- i. the borderline between reporting and echoing: an utterance primarily intended to report other's speech or thought may be used to convey some information about the speaker's attitude.
- ii. the borderline between irony and other types of echoic use: the prototypical attitudes that the ironical speaker expresses shade off into other types of dissociative or sceptical attitude and/or they can be a complex mixture of attitudes.
- iii. the borderline between attributions (both overt and tacit) and expressions of attitude: the gap between fully explicit conceptual encodings of attribution and attitude and purely tacit attributions and expressions is filled by a wide variety of paralinguistic and peripheral linguistic forms (intonation, facial expressions, gestures, interjections, discourse particles, quotation marks, parentheticals, etc.)

While the prototypical attitude expressed by ironical utterances is one from a range of dissociative attitudes, other types of utterances within the interpretive use of language may also express similar dissociative attitudes. For instance, it is also possible that Alex's attitude in this example could be a disgusted or disapproving one towards Mark depending on the context, without being ironic. Wilson suggests that ironical utterances seem to belong together with other forms of echoic, attributive, and interpretive use. Thus, utterances can be more or less ironic depending on how much utterances exploit the speaker's implicit attribution and implicit expression of dissociative attitude. What

the echoic account (2006:1733) stresses here is that all the utterances should be treated in the same way, regardless of whether they involve echoic use, attributive use, or interpretive use, or whether they are taken to be ironic or not. This is very important for investigation of the comprehension of irony. Interpretations can be understood as more or less likely to be interpreted as implicitly attributive and with an implicit dissociative attitude, rather than as either ironic or not. Even the communicator who intends to tacitly express her dissociative attitude towards an attributed thought may or may not be sure whether her communicative behaviour is likely to be taken as irony. Given this, understanding of ironical utterances cannot be measured by a scale involving a straightforward irony-non-irony or irony-literal categorisation.

2.2.4 Differences between the two approaches

This section considers the crucial difference between two approaches concerning the distinction between ‘*saying*’ and ‘*implicating*’ in Grice’s approach and the distinction between ‘*explicature*’ and ‘*implicature*’ in the relevance theoretic approach (Carston 1988, 2002; Clark 2013; Sperber and Wilson 1995; Wilson and Sperber 2002, Wilson 2014b). It then discusses how the echoic account’s way of dealing with irony differs from Grice’s account.

Wilson (1994) points out that relevance theory and the Gricean approach to communication and understanding have some things in common. She put it as:

‘Relevance theory rests squarely on Gricean foundations: Sperber and Wilson accept Grice’s view that the goal of pragmatics theory is to explain how the hearer recognizes the overtly intended interpretation of an utterance; they acknowledge the importance of non-demonstrative inference in comprehension, and agree with Grice that general principles of communication play a major role in the inference process, though not, perhaps, in quite the way Grice thought (1994:57).’

Agreeing with Grice’s pragmatics in principle Sperber and Wilson (1995) started developing their theory by suggesting answers to questions about Grice’s pragmatic insights that Grice himself did not make clear. Consequently, Sperber and Wilson have

developed a quite different pragmatic theory in general and a different account of irony in particular.

Sperber and Wilson (1995) replaced the ‘*saying- implicating*’ distinction with the notions of ‘*explicature*’ and ‘*implicature*.’ They also do not assume a category of conventional implicature. Grice suggested that ‘what is said’ is the proposition resulting from decoding, disambiguation and reference assignment (the literal meaning) and saw the truth value of the utterance as depending on whether the proposition explicitly expressed is true or false. Relevance theory, however, argues that 1) ‘disambiguation (including lexical ambiguity and syntactic ambiguity)’ and ‘reference resolution’ are also pragmatic processes, and 2) other pragmatic processes, called ‘enrichment processes’ in relevance-theoretic terms, are also required (further processes to recover the full propositions of utterances). Therefore, relevance theory has abandoned the notion of ‘what is said’ in Grice’s sense, and treats the speaker’s intended meaning as a combination of ‘*explicature*’ and ‘*implicature*’.¹⁵ Relevance theory removed the idea of ‘what is said’ and replaces it with the idea of ‘*explicature*’. It defines ‘*explicature*’ as follows:

On the analogy of ‘*implicature*’, we will call an explicitly communicated assumption an *explicature*. Any assumption communicated, but not explicitly so, is implicitly communicated: it is an *implicature*. By this definition, ostensive stimuli which do not encode logical forms will, of course, only have *implicatures*.
(Sperber and Wilson 1995:182)

‘*Explicatures*’ are what is explicitly communicated and they are also partly implicit.

‘*Explicatures*’ are propositional forms pragmatically developed out of a logical form of the utterance (Sperber and Wilson 1995:285). ‘*Explicatures*’ are derived through decoding its literal meaning, and pragmatic processes (i.e. reference assignment, disambiguation of word sense and specification of vague term and other pragmatic

¹⁵ See Sperber and Wilson (1995 Chapter 4 §2), Clark (2013 Chapter 5), and Carston (2002) for full discussion.

enrichment). *'Implicatures'* are communicated assumptions that are not explicitly communicated. Relevance theory considers *'implicatures'* as consisting of both *'implicated premises'* and *'implicated conclusions,'* which differ with regard to which stage of inferential process they are derived in. *'Implicated premises'* are derived resulting from the first inferential enrichment of explicatures of the utterance and the context to yield contextual assumptions and they are used to derive further implicatures. Note, however, that there is no assumption that implicated premises are necessarily derived before implicated conclusions. Thus, *'implicated conclusions'* are derived through the interactions of *'implicated premises'* with contextual assumptions including *'explicatures'* of the utterance. Thus, not only *'implicatures'* as Grice suggested, but also *'explicatures'* are derived through inferential processes, which are governed by expectations of relevance.

In terms of irony, the echoic account sees Grice's account of irony as simply a modern-dress variant of the classical account (Wilson 2006:1724). Wilson and Sperber (2002:270) state that Grice's approach is inadequate both theoretically and descriptively. Theoretically, the echoic account rejects the basic claim of the classical and standard Gricean approaches in which the intended communicative meaning of an ironical utterance is the opposite of the proposition literally expressed. The point of irony is that irony is a vehicle to express the speaker's dissociative attitude toward an attributed thought. Grice (1978) claimed that ironic interpretations necessarily involve rejecting 'what the speaker has said or made as if to say' in Grice's term and looking for the opposite to their literal meanings. If the point of an ironical utterance was, as Grice predicted, the opposite of what was said, we should expect some extra effects following from the speaker saying the opposite and from the hearer rejecting a literal meaning and looking for the opposite. Grice did not or could not explain why a rational speaker says the opposite of what she intends to mean and puts her hearer to such effort to derive her

intention. The echoic account (Wilson and Sperber 2002) argues that ‘...it is hard to see how a rational speaker could hope to convey her meaning more economically by choosing a word whose encoded meaning is the opposite of the one she intends to convey... (p.217)’. It is irrational and a waste of effort since it is more costly to process without any extra benefit. On the other hand, if the point of irony is, as the echoic account predicts, the speaker’s expression of her dissociative attitude towards her utterance, this intention of the ironical speaker is communicated more effectively by attribution of the thought to others than by saying the opposite to what she means. It is attribution of the thought that draws the audience’s attention to a discrepancy between the reality (a state of affairs) and expectations of the world. It is by expressing the speaker’s attitude to views she tacitly attributes to someone else rather than by saying the opposite, that an utterance achieves most of its relevance (Wilson and Sperber 2002): extra effort produces extra effects. Attribution makes the communicative effect of the ironical utterances more considerable than if the proposition had been expressed directly (communicating the same literally) and this is why people choose to be ironic.

They also suggest that some types of verbal irony, such as ironical understatement, ironical quotations or ironical allusions, do not communicate the opposite of what is literally said, and that it is irrational to mean the opposite of the proposition literally expressed when it is perfectly possible and more economical to say it directly. They (Wilson and Sperber 2002:272) argue that there are situations where an utterance might be taken to be ironic even though it is neither blatantly false nor used to convey the opposite of what was said. Notice, too that examples (11) and (12) are also not cases where what is said is blatantly false as Grice suggested.

(11) On a night in October when the temperature in London drops to minus 10 c°:

Ben: *It’s a bit chilly tonight.*

(12) Both Paul and Jim know that Mary is a terrible cook. Jim heard that Mary is preparing a pork pie, which she has never cooked before, for Paul’s birthday:

Jim: Mary is cooking her very first pork pie specially for your birthday.

Paul: *Yay!*

Within Grice's approach, this type of irony cannot be explained, as it is not blatantly false but rather literally true. The utterance in (11) is a typical case of ironical understatement. It is literally true. It is not violating the maxim of Quality (truthfulness) which says 'try to make your contribution one that is true.' It is a matter of the level of coldness Ben has described here. This utterance highlights a contrast between the level of coldness usually described by the adjective 'chilly' and the reality of coldness of -10 c°. On the spectrum of coldness, a description of the temperature of -10 c° at night in October in London would usually involve a stronger expression than 'a bit chilly.' Similarly, the interjection '*Yay!*' in (12) cannot taken as true or false since it does not directly express a truth-evaluable proposition in it. Hence, it cannot be treated as a case of a deliberate violation of the maxim either.

Irony is generally but not necessarily used to criticise or complain when the reality falls short of expectations, which are based on socially shared norms about how things should be or should not be. When the speaker echoes a norm-based expectation that could have been met, irony is readily understood. On the other hand, when the speaker expresses dissociative attitudes ironically by uttering a negative proposition, it is necessary to have some thoughts that expressed some doubts or suspicions earlier in its context. This feature of irony, a typical normative bias in the use of irony has never been adequately explained in Grice's account or other neo-Gricean accounts of irony. Grice's own counter-example (1978:124) mentioned in the previous section can be used to point to an inadequacy of his account. While meeting all the conditions for irony that Grice proposed, this example would not normally be understood as ironical. The example is repeated here:

A and B are walking down the street, and they both see a car with a shattered window. B says, *Look, that car has all its windows intact.* A is baffled. B says,

You didn't catch on; *I was in an ironical way drawing your attention to the broken window.* (Grice 1978:124)

As Grice (1978:124) acknowledged, without the speaker's hostile or derogatory attitude, there is no irony here. Wilson (2013) points out that ironic interpretations are possible if a thought or utterance has been expressed previously to which the speaker can attribute her expression of doubts or suspicions. She suggests that it needs 'some evidence that is being echoically used to dissociate the speaker from an attributed thought (2013:47).'

She suggests that it would be hard to see this as a case of irony unless an echoic element is included in this scenario. She added the assumption to Grice's scenario: When A and B walked down the street, B said, '*I have been worrying aloud about whether it is safe to leave my car there overnight.*' A has been trying to reassure B. Then, later A and B come across a car with a broken window (Wilson 2013:47). With this added assumption, Grice's original utterance of B '*Look, that car has all its window intact*' could be taken as ironic. The echoic account of irony (Wilson 2013, Wilson and Sperber 2012) explains this as follows:

'...it takes special circumstances to be able to say ironically 'She is so impolite!' when someone is being polite, 'Horrible weather!' when the sun is shining, or 'This is an even number' when talking about an odd number. For irony to succeed in these cases, the thought that the person in question might behave impolitely, that the weather would be horrible, or that the number was odd must have been entertained or, even better, expressed. Only then is there some identifiable thought that can be ironically echoed.'

(Wilson and Sperber 2012:139)

The echoic account suggests that a positive proposition can be freely expressed to criticise or complain whereas a negative proposition seems to be appropriately taken as irony only when the speaker and the hearer mutually share knowledge about a negative thought such as doubts, suspicions, or fears. As discussed in the preceding sub-section, irony involves implicit expression of the speaker's dissociative attitude towards a thought tacitly attributed. The echoic account suggests that the speaker's ironic intention depends on the utterance being echoic.

The echoic account of irony sees irony as sharply distinguished from metaphor: metaphor is a means to express a thought about a state of affairs whereas irony is a means to express a thought about another thought. If Grice (1975:53) was right to suggest that irony involves the speaker's expression of a 'hostile or derogatory judgement or feeling such as indignation or contempt,' then the parallelism between irony and metaphor or hyperbole is not complete (Wilson and Sperber 2002:271). In other words, if irony and metaphor can be treated in parallel, then not only irony but also metaphor should involve the expression of a speaker's characteristic attitude. There is no such attitude involved. Neither the classical approach nor Grice had any explanation about this.

Lastly, the relevance-theoretic account of irony argues that context-independent processing of literal meaning is not obligatory in order to arrive at the ironic speaker's meaning. Grice proposed a 'standard pragmatic model' of processing irony or a 'two-stage model of irony' in which first access to literal meaning was necessary to derive the implied meaning. Under this view (Grice 1975; Searle 1979, 1993), accessing the literal meaning of a given utterance seems to be necessary to derive implicature and it is only when the literal interpretation turns out to be blatantly false that the hearer starts looking for possible figurative interpretations. Dews and Winner (1999) reported that it took longer to judge ironical than literal utterances, which suggested that the literal interpretation was accessed first. On the other hand, Sperber and Wilson (1986/1995) propose a one-stage processing model. They claim that, irrespective of how weakly or strongly explicatures are communicated, a hearer uses the most easily accessible assumptions to derive the most easily accessible implications, and stops when he has enough. Sometimes interpretations resulting from this procedure would be literal and at other times a metaphorical or ironical meaning arises. The relevance-theoretic approach suggests that access to literal interpretations is not necessary to derive implicatures in

ironical utterances and that there is no such fixed order. Its linguistic form is no more than a clue to the speaker's meaning, or 'a piece of evidence' for inferential processing. This relevance-theoretic view of a one-stage cognitive mechanism¹⁶ is consistent with the direct access view supported with some evidence from psychological studies (Gibbs 1986a, 1986b; Pexman 2008; Pexman, Ferretti, and Katz 2000, Pexman, Rostad, McMorris, Climie, Stowkowy, and Glenwright 2011). These challenged the 'standard pragmatic model of processing' and rejected it with considerable evidence. Instead, they provide evidence for the direct access view that predicts direct activation of ironic interpretation without arousal of literal meaning. Interpretation of utterances as ironical can be derived from a range of contextual information, which comes into play early in the comprehension process.

2.2.5 The interpretation process for potentially ironical utterances

Given that verbal irony involves the expression of the speaker's dissociative attitude towards the attributed thought/utterance, what is necessary for the hearer to understand the ironic speaker's communicative intention is (a) to understand that the speaker is indirectly attributing a thought or an utterance to others without overt linguistic indication, and (b) to recognise the speaker's dissociative attitude towards the attributed thought which the speaker is echoing. The echoic account (Wilson and Sperber 2002:272) suggests that verbal irony involves no alternative or special procedures for comprehension or different machinery to the cognitive mechanism that is already needed to account for a basic use of language, in other words, the comprehension procedure is the same for all sorts of verbal and non-verbal communication. Thus, the cognitive process a hearer follows in interpreting ironical utterances involves exactly the same comprehension procedure as other utterances. Relevance theory (Clark 2013

¹⁶ Giora (1995, 1997) has proposed the graded salience hypothesis as an alternative to those two models. See also Giora, Fein, and Laadan, Wolfson, Zeituny, Kidron, Kaufman, Shaham 2007; Giora, Fein, and Schwartz 1998 for more discussion.

chapter3; Sperber and Wilson 2002; Wilson 2014; Wilson and Sperber 2002) proposes the ‘relevance-guided comprehension heuristic,’ which is triggered by ostensive communicative acts to bridge the gap between sentence meaning and speaker’s meaning. It is explained as follows:

Relevance-guided comprehension heuristic

- a. Follow a path of least effort in constructing an interpretation of the utterance (in resolving ambiguities, referential indeterminacies, in going beyond linguistic meaning, in supplying contextual assumptions, computing implications, etc.) in order of accessibility.
- b. Stop when your expectations of relevance are satisfied.

(Sperber and Wilson 2005:474)

In the relevance-theoretic framework (Clark 2013 chapter3; Sperber and Wilson 2002; Wilson 2014; Wilson and Sperber 2002), a key to successful communication is that the communicator’s ostensive stimulus (e.g. an utterance) should achieve enough cognitive effects to be worth the audience’s attention, and without putting the hearer to gratuitous effort, in order to satisfy his expectation of relevance. Thus, it is the communicator’s responsibility to formulate the utterance so that it provides enough effects to justify the processing effort involved so as to lead her audience in the right direction to hold her audience’s attention and communicate her intention successfully. On the other hand, the addressee presumes that the communicator’s ostensive stimuli/inputs are relevant enough to be worth expending his processing effort in processing them. If it is not, he will give up on interpreting it. His task is to identify the interpretation that the communicator might reasonably have intended to convey by constructing a hypothesis about the speaker’s meaning. He aims to derive enough positive cognitive effects to justify the effort involved in processing the utterance. The less processing effort required for identifying positive cognitive effects, the less risk of misunderstanding, and the more relevant the utterance will be. The first acceptable interpretation (i.e. the first interpretation which satisfies the expectation of relevance) is the only appropriate interpretation and is the one he should choose. If he did not find it at first, he will

continue to look for it until he finds one which gives rise to adequate relevance. His expectation of relevance will be satisfied if he derives an appropriate interpretation. If an utterance demands unreasonable effort and does not meet his expectation of relevance, the communicator's intention must have been to achieve some extra or different cognitive effects which offset the extra efforts: 'extra effort implies extra effect.' According to relevance theory, the task of understanding utterances involves a process of building a hypothesis about 'explicatures,' 'implicated premises,' and 'implicated conclusions.' Thus, the hearer is expected to take a path of least effort to build a hypothesis to the point where the expectation of relevance is satisfied. These hypotheses are set up in no fixed order and are adjusted constantly. This process is called '*mutual parallel adjustment*,' which is a technical term in relevance theory.

Let me explain how the relevance-guided comprehension heuristic works in the case of irony. Consider a scenario below:

John is going to work under a new boss, David. John is a little nervous about his new boss, so he asks Helen who used to work with David what type of boss David is. Helen said John that 'Oh, I've never had any problem with him. Paul is considerate and supportive.' Three months on, John, however, finds David rather difficult to work with. David often demands him unnecessary overwork. When John was working late alone in his office, Helen comes and asks how he is getting on David. John says,

(13) *He is such a considerate and supportive boss!*

Helen disambiguates and assigns reference to derive a proposition ('David is a considerate and supportive boss') and creates contextual assumptions using information from contextual information (e.g. they are in the office late at night, everyone but John has gone back home, John is still working, etc.), background knowledge (e.g. boss who demands his subordinates carry out unnecessary work is not good, any employers cannot or should not ask overwork, etc.), and mutual cognitive environment (e.g. both Helen and John assume that David who was her boss before is now John's boss, Helen remembers that she said to John once that David was considerate and supportive). Helen

derives implicated premises from a set of implications from inference. Note that as discussed above, the relevance theory does not suggest that the implicated premises are derived in order of mention; there is no fixed order. A possible set of implications may be something like (13a) - (13d):

(13a) John said that David is considerate and supportive.

(13b) John remembers what I said to him.

(13c) John believes that David is considerate and supportive as I told him.

(13d) John does not believe that David is considerate and supportive.

(13a) is a simple report of speech. Helen must reject (13a) since John has no reason to report back Helen's utterance to her. She assumes that John cannot rationally expect his utterance to be relevant to her. (13b) does not satisfy Helen's expectations of relevance either since John has no reason to inform her of how well he remembers the conversation between them. Both (13c) and (13d) are echoic use. In (13c), John is echoing and endorsing (expressing agreement with) her previous utterance. On the other hand, (13d) is an echoic use in which John attributes to and dissociates himself from the content of Helen's previous utterance. Helen considers all the available contextual information such as that Helen now knows that David demands John carry out unnecessary work which is not urgent or necessary, how John has been getting on with David, etc., and would reject the echoic interpretation in (13c). Helen may or may not notice the way John uttered his utterance, e.g. his facial expression or his tone of voice. Thus, (13d) is the first acceptable interpretation. This cognitive effect involves the revision of existing assumptions: (13d) contradicts and eliminates an existing assumption in Helen's mind (David is a considerate and supportive boss). After deriving (13d), Helen uses this implicated premise to derive further implicated conclusions. The resulting implicature might be (13e):

(13e) John believes that I was wrong to say that David is considerate and supportive.

For understanding John's intention behind his utterance, Helen needs to recognise the fact that John's utterance is being attributively used and that John is expressing his derogatory attitude towards her judgement on David.

The echoic account also (Wilson and Sperber 2012:1) suggests that 'a speaker who doubts her hearer's ability to recognise this intention using background knowledge alone can provide additional cues (e.g. ironical tone of voice, a wry facial expression, a resigned shrug, a weary shake of the head).' As we saw in the example of (6a) – (6c), a different attitude to the same verbal content can be indicated by the speaker changing her tone of voice. In (13c) and (13d) above, the only difference between these two examples is the attitude John intended to convey. Depending on how John sees Helen's ability to understand his intent, he aims to minimise the processing effort which Helen needs to make, and may use a particular tone of voice to indicate his communicative intention: a different tone of voice to the one he might use in (13c) in which he commits himself to the thought expressed. John's tone of voice comes into play as a clue or cue to his dissociative attitude. The echoic account (Wilson 2013, 2014a; Wilson and Sperber 2012) suggests that there are cases where the speaker's characteristic tone of voice signals her intent to express a dissociative attitude. The role that the speaker's tone of voice plays during inferential processes will be discussed in the next section.

2.3 Irony and prosody

2.3.1 *prosody and meaning*

This section considers the term 'prosody' in order to understand its functions as a prominent cue to signal the speaker's attitude or emotion.

According to Roach (2009), the term 'tone' refers to an identifiable movement or level of pitch that is used in a linguistically contrastive way whereas the term 'intonation,' in its more restricted sense, refers to the variations in the pitch of a speaker's voice, but in its broader and more popular sense it is used to cover much the

same field as ‘prosody’ where variations in such things as pitch, voice quality, tempo, and loudness are included. In the literature (Wichmann and Blakemore 2006), the four vocal features, namely pitch, loudness, tempo, and voice quality are collectively known as ‘prosody,’ and these vocal features can characterise anything from a single syllable of a word to the whole utterance. Thus, prosodic contours or tone of voice are thought to be produced with variations in these four components: the placement of a pitch accent may vary, accents can rise or fall (or be more complex), a stretch of speech can be loud or soft, tempo can be fast or slow, and utterances can be spoken in a tensed manner or with a breathy voice (House 2006; Wichmann and Blakemore 2006; Wilson and Wharton 2006)¹⁷.

As has been discussed, acoustic speech signals carry not only information about the linguistic content of the utterance, but also non-linguistic information such as the speaker’s identity, social status, and the speaker’s psychological state (Nygaard and Lunders 2002). Traditionally, these two areas of research, on non-linguistic and linguistic properties of spoken language, have been conducted separately: research on how non-linguistic or paralinguistic aspects of spoken language such as affective tone of voice are related to perception of the emotional state of speaker, and research on how the linguistic content of speech such as syllables, words, and sentence of speech are processed and represented. In the latter research area, properties of the speech signal, such as emotional tone of voice, have been treated as a source of ‘noise’ that listeners must ignore. Until recently, it has been considered that the effect of emotional tone of voice on resolution of lexical ambiguity was marginal (see Nygaard and Lunders 2002 for further discussion and references). The opposite discussion, however, has emerged in some studies (Frick 1985; Murray and Arnott 1993; Nygaard and Lunders 2002;

¹⁷ Gumperz distinguishes prosodic features such as stress and intonation from paralinguistic features such as tempo and laughter, choice of code and particular expressions, and describes both features as varieties of “contextualization cue.” For details, see Gumperz (1992).

Scherer, Banse, Wallbott, and Goldbeck 1991; Pittam and Scherer 1993). These studies have pointed out that prosody can convey an enormous amount of information about the speaker's emotional state or attitudes. Kitayama and Howard (1994) argued for the influence of affective tone of voice on the comprehension of spoken communication, and suggested that such non-linguistic properties should not be stripped away during on-going language processing. They surveyed experimental evidence from neuropsychological studies both on the population of patients with brain damage and on the normal population. These studies suggested that the right hemisphere is responsible for processing vocal content and the left hemisphere for processing verbal content (see Kitayama and Howard 1995 for further discussion and references). Kitayama and Howard (1994:50-51) concluded that although linguistic content and emotional tone of voice appear to be processed through separate channels, information from these two different sources are integrated during the course of processing. They also suggested that emotional tone of voice appears to influence not only the resolution of lexical ambiguity but also the interpretation of sentence-length utterances (Nygaard and Lunders 2002:585).

The job of pragmatics here, then, seems to be to account for the effects of prosody on comprehension of the speaker's communicative intention and to explain how the speaker's emotion or attitude is inferred. As Wharton (2012a) suggested, prosodic contributions to meaning should be considered from a viewpoint based on 'meaning' rather than from a phonological point of view. It has been suggested that the speaker chooses particular prosodic elements (e.g. intonation, stress) to convey her emotions and attitudes, and thus such prosodic elements may be an important cue to identifying the speaker's intended meaning for a given utterance (House 2006; Wichmann and Blakemore 2006; Wichmann 2000; Wilson and Sperber 1995; Wilson and Wharton 2006). Within the framework of relevance theory (Clark 2007, 2012; Sperber and

Wilson 1995, Wichmann 2000; Wharton 2012a; Wilson and Wharton 2006), it has been suggested that prosodic elements create impressions, convey information about emotions or attitudes, or alter the salience of linguistically possible interpretations. Wilson and Wharton (2006:1566) suggested that affective tones of voice create a diffusive impression which involves marginal alterations in the strength or salience of a wide array of conclusions rather than providing strong support for a single, determinate conclusion. Thus, the same input may have different effects depending on occasions or contexts.

2.3.2 The speaker's tone of voice as a distinctive feature of irony

The echoic account (Wilson 2013; Wilson & Sperber 2012) suggests that the speaker's tone of voice often but not necessarily helps the audience to recognise the speaker's dissociative attitude towards the thought attributed implicitly. However, this account does not treat it as an indispensable cue. Instead, it considers that a characteristic tone of voice serves as a natural but optional cue to her communicative intention. It explains that the speaker may provide '*additional*' cues when she doubts the hearer's ability to recognise her intention using background knowledge alone. Kreuz and Roberts (1995) quoted Cutler (1974:117) who say that "if cues from the context are strong enough no intonational cues are necessary at all". Roberts (1995:28) claimed that when the speaker and a listener share less common ground the speaker may use a characteristic tone of voice as an explicit cue for her intention. The echoic account (Wilson 2013:46) considers this feature as one of the distinctive features of irony, with regard to which stands irony out from other types of figurative language such as metaphor. Wilson (2013:48) argues that metaphor, unlike irony is not a case of echoic use of language and it does not involve the speaker's expression of a dissociative attitude. Thus, it is not realistic to expect that a specific type of prosody is associated with metaphorical utterances (i.e. we should not expect to find a 'metaphorical tone of voice'). Kreuz and

Roberts (1995) also claimed that the role of intonation during interpretation processes is especially important for irony when compared to other types of figurative language.

They suggested that:

Although intonation plays an important role in the meanings of utterances, such cues seem to be especially important in the use of irony. In fact, irony seems to be unique in this regard among the different forms of nonliteral language; no one speaks, for example, of an idiomatic tone of voice or a metaphorical tone of voice.

Kreuz and Roberts (1995:22)

Thus, use of a characteristic tone of voice is seen as a distinctive feature of irony and suggests a way in which irony and metaphor are distinguishable. Such a characteristic tone of voice, which is assumed to lead to a potentially ironical interpretation, is often termed '*ironical tone of voice*' in the literature. Typical prosodic features of this assumed ironical tone of voice that are most frequently cited in the literature (Ackerman 1983; Bryant 2010; Bryant and Fox Tree 2002; Chevallier et al 2011; Cutler 1976; Rockwell 2000) are slower tempo, lower pitch level, nasalization, and greater intensity than found in the corresponding literal utterance, which the echoic account (Wilson 2013:46) calls 'deadpan intonation'. The earlier study of Rockwell (2000) has explored characteristics of the vocal cues to sarcasm, which she defined as "a sharply mocking or contemptuous ironic remark intended to wound another (2000:485)". She (2000) suggested two different conditions where the speaker may use a characteristic tone of voice for her utterance to be taken as sarcastic. One condition was a 'spontaneous' condition which elicited specific vocal characteristics naturally from the speaker expressing the feelings or emotions of the speaking character in each vignette. The other condition was a 'posed' condition where the speaker was instructed to read the target utterances 'sarcastically.' The results of perceptual judgement tasks (using a 5-point Likert Scale) revealed that acoustic features such as 'tempo', 'pitch level (but not pitch variation)', and 'intensity level (but not intensity variation)' seemed to influence perceptions of sarcasm. 'Resonance' and 'articulation' were not found to be effective.

Rockwell (2000:493) suggested a conclusion that sarcasm is most likely conveyed by a slower tempo, lower pitch level and greater intensity level. She also reported that there was no significant difference between the posed and the spontaneous conditions in the effects of each acoustic feature except for intensity level. The perceptual coders rated intensity significantly louder under the posed condition than the spontaneous condition. Rockwell also found a significant difference between the posed sarcasm condition and the non-sarcasm condition but not between the spontaneous sarcasm condition and the non-sarcasm condition¹⁸. This seems to indicate two possibilities: that the speaker might change her tone of voice subtly, and that the speaker may not necessarily use a characteristic tone of voice, which both seem to be consistent with the suggestions of the echoic account of irony that irony involves implicit expression of the speaker's attitude and that the '*ironical tone of voice*' serves as an optional cue.

It should be noted that the detailed descriptions of '*ironical tone of voice*' have varied among researchers. As a consequence, the term '*ironical tone of voice*' has been described as not only involving a 'deadpan flat' tone but also with reference to other intonational or tone patterns. Below are some examples of how different studies have described features of the regular ironical tone of voice:

- 'deadpan' which might be perceived as light criticism or as being mildly amusing, and intonation with heavy stress which may convey much more negative evaluation (Kreuz and Roberts 1995:24, 28)
- 'sarcastic intonation' which expresses mocking, exaggerated, contemptuous attitudes; flat intonation (deadpan); overly sincere intonation; downright negative intonation; subtly negative by its flatness, or overly positive intonation which may alert suspicion (Winner 1988:148)
- 'sarcastic' as negative which signals annoyance; 'deadpan' as mocking, nasal, flat which signals playfulness or superiority, or 'sincere' as flat, which has an effect of muting the criticism and increasing the humour of irony (Dews et al. 1996)
- 'sarcastic' tone as exaggerated, 'mocking' tone with stress, and 'uninflected' tone as involving no special emphasis (Keenan and Quigley 1999)

¹⁸ It has been reported in the study of Bryant and Fox-Tree (2002) that even spontaneously produced irony was also accompanied by prosodic features that help listeners to differentiate it from sincere speech.

- 'sarcastic' intonation as a mocking tone with great exaggeration of the modulation of pitch and emphasis on syllables articulating longer than the neutral intonation (Capelli et al. 1990:1827)

The effects of the speaker's tone of voice on irony comprehension have been of great interest not only to pragmatic theorists and developmental psychologists but also to neuropsychologists. Numerous empirical studies have been conducted to explore what kinds of role the speaker's tone of voice may play in recognition of a dissociative attitude (Ackerman 1983, 1986; Bryant & Fox Tree 2002; Capelli, Nakagawa, and Madden 1990; Creusere 1999, 2002; de Groot, Kaplan, Rosenblatt, Dews & Winner 1995; Demorest *et al.* 1984 ; Dews, Winner, Kaplan, Rosenblatt, Hunt, Lim, McGovern, Qualter, and Smarsh 1996; Keenan & Quigley 1999; Happé 1995; Laval & Bert-Erboul 2005; Nakassis & Snedeker 2002; Rockwell 2000; Rosenblatt, Swinney, Gardner, and Winner 1987; Winner & Leekam 1991; Woodland & Voyer 2011). Some experiments on adult participants have provided positive results suggesting that the speaker's tone of voice seems to help the adult audience to recognise the speaker's attitude or emotion (Ackerman 1983; Bryant & Fox Tree 2002; Creusere 1999; Nakassis & Snedeker 2002; Rockwell 2000; Woodland & Voyer 2011). Rockwell (2000) suggested that certain aspects of vocal information could facilitate the perception of sarcasm (Rockwell 2000). The study by Rosenblatt, Swinney, Gardner, and Winner (1987) found that 'adults understood ironic statements more quickly when they contained a mocking intonation than when they did not (cited in Kreuz and Roberts 1995:24).' At the same time, some studies have suggested no effect of the speaker's tone of voice. For example, Winner and Gallagher (1983 cited in Kreuz and Roberts 1995) suggested that behavioural cues such as laughing or pointing serve as more informative cues to the ironical speaker's intention than intonational cues. Gibbs and O'Brien (1991:529-530) claimed, based on work by Gibbs (1986a, 1986b), that any special intonation cues were not required for the understanding of sarcasm, which this study considers as subtypes of verbal irony. It

should be noted, though, that these claims are to some extent misleading. In the study of Winner & Gallagher (1984), gesture or body language showed more significant effects than intonational cues, which is not the same as suggesting that intonational cues had no effect. What Gibbs (1986a) investigated was the role of prosody in memorising sarcastic expression rather than in interpretations. In fact, he suggested that prosody does not play an important role in memorising sarcastic expressions more effectively, but this does not indicate that there is no effect of prosody in the interpretation of sarcasm (p.56).

On the other hand, developmental studies which tested both typically developing children and an atypical population (autistic children and brain impaired adults) have provided mixed results in respect to the role of a characteristic tone of voice for irony comprehension. While some studies (Capelli, Nakagawa, and Madden 1990; Creusere 2002; de Groot, Kaplan, Rosenblatt, Dews and Winner 1995; Dews, Winner, Kaplan, Rosenblatt, Hunt, Lim, McGovern, Qualter, and Smarsh 1996; Happé 1993; Keenan and Quigley 1999; Laval and Bert-Erboul 2005) suggested that intonational cues play an important role in understanding of the speaker's intention and attitude, evidence of positive effects has proved inconclusive in terms of children's age when they show development. For instance, experimental studies (de Groot et al. 1995; Keenan and Quigley 1999; Happé 1993) have provided some evidence that intonational cues seem to be facilitative for 6-year-old children to comprehend irony. The results from a study by Laval and Bert-Erboul (2005) showed that even 5-year-old French speaking children appear to use information that intonation carries to interpret ironical utterances. On the other hand, there has been a debate in developmental studies about how far tone of voice contributes to children's irony comprehension. Some studies (Ackerman 1983, 1986; Demorest, Meyer, Phelps, Gardner, and Winner 1984; Winner and Leekam 1991; Winner, Windmueller, Rosenblatt, Bosco, Best, and Gardner 1987) have argued that intonation did not play any role in the irony comprehension of 6-year-olds. A study by

Winner et al. (1987) even suggested that no effect of tone of voice was found in 8-year-old and 10-year-old children's understanding of irony. These confusing results might be related to differences in methods used in the experiments (Creusere 1999; Kreuz and Roberts 1995:24; Nakassis and Snedeker 2002:429). The experimental design of each study differed with regard to dependent variables, stimuli, procedure and some combination of these factors. In addition, these studies differ in what kinds of effects of tone of voice were explored: some have explored the effects of intonation on interpretation; others have investigated its effect on understanding the speaker's intention or the speaker's attitude, detection, perception, or awareness of sarcasm; others on distinguishing irony from other types of language use (e.g. lie, joke). More importantly, many of these developmental studies have investigated the interaction effects of tone of voice and context. It should be taken into account that these studies were focused on the effects of intonation in comparison with those of context. Thus, in line with the echoic account's prediction discussed above, these arguments against the facilitative effects of tone of voice seem to suggest a supplementary role of tone in guiding hearers towards potentially ironic interpretations: the speaker may express her attitude more explicitly by using a different tone of voice when the speaker doubts the hearer's ability to recognise her intention using background knowledge alone.

2.3.3 The notion of the 'ironic tone of voice'

There have been some attempts to explore vocal features of '*ironical tone of voice*' (Anolli, Ciceri, and Infantino 2000, 2002; Bryant 2010, 2011, 2012; Cheang and Pell 2007; Bryant and Fox-Tree 2002, 2005; Laval and Bert-Erboul 2005; Milosky and Ford 1997; Rockwell 2000, 2007; Séguin 2007; Scharrer and Christmann 2011; Shapley 1987; Voyer and Techentin 2010). Some studies have focused on identifying acoustic parameters which are crucial for the perception of irony. For example, Milosky and Ford (1997) used acoustic analysis software to rate target utterances which professional

actors read aloud. They suggested three acoustic features that were most likely to lead a given utterance to be taken as sarcastic: lower pitch /fundamental frequency (F0), longer duration/length, and reduced F0 variability (indicated by smaller standard deviations of F0). In her further investigation of the acoustic features which influence perceptions of sarcasm, Rockwell (2007) obtained slightly different results to her earlier study (Rockwell 2000). She analysed voice features of sarcastic utterances which were naturally produced in comparison with those of non-sarcastic utterances. Acoustic analysis measured 'length (total length of utterance, total amount of sound and silence)', 'tempo', 'fundamental frequency (F0)', 'maximum and minimum of F0', 'F0 range', 'intensity', 'maximum and minimum of intensity', and 'intensity range'.¹⁹ Perceptual coders judged the following six acoustic features with a 5-points Likert scale: 'pitch (low-high)', 'pitch range (narrow-wide)', 'volume (soft-loud)', 'tempo (slow-fast)', 'length of utterance (short-long)', and 'total amount of sound (small amount of sound with many poses-large amount of sound with few poses)'. The results from both acoustic analysis and perceptual judgement tests revealed that a significant difference between sarcasm and non-sarcasm was found in three acoustic features – 'frequency/pitch range', 'total length of utterance', and 'total amount of sound'. In addition, acoustic analysis found a significant difference in frequency mean. Rockwell (2007:368) suggested that sarcasm is highly likely to be accompanied by a higher than normal pitch with a wider than normal range, with longer utterance comprised of longer vowel sounds (the amount of sound) and less pausing. The direction of pitch diversity (higher or lower) away from normal pitch was observed to be the opposite to that found in her previous study (2000) which reported lower pitch. In addition, this study

¹⁹ Rockwell (2007) used the SFS acoustic analysis software. This software produces a visual speech waveform of recorded utterance as output which reanalysed .to produce a pitch profile and intensity profile. From the basic speech wave length was measured in millisecond. Tempo was measured by dividing the number of syllables in a given utterance by the length of the utterance. From the pitch profile, F0 was extracted in Hertz, and F0 range was measured by subtracting minimum F0 from maximum F0. From the intensity analysis, intensity was measure in decibels (dB), and intensity range was measured by subtracting minimum intensity from maximum intensity.

(Rockwell 2007) found no difference in ‘tempo’, ‘intensity/volume’ or ‘intensity range.’ Rockwell (2007) explained that a lower pitch level for sarcastic utterances may actually reflect a greater pitch range of sarcastic speakers rather than a lower general level, and that ‘it is possible that what passed for slower tempo... may actually be longer duration of vowel sounds (p.368).’

Three acoustic dimensions, ‘pitch’, ‘tempo’, and ‘intensity’ have appeared to be crucial features of ‘*ironical tone of voice*’ in other studies (Anolli et.al 2000, 2002; Cheang and Pell 2007; Laval and Bert-Erboul 2005; Milosky and Ford 1997; Rockwell 2000; Scharrer and Christmann 2011; Shapely 1987; Voyer and Techentin 2010). However, different studies reported different directions for each acoustic dimension. For example, while most studies suggested that a sarcastic speaker uses lower pitch (Cheang and Pell 2007; Milosky and Ford 1997; Rockwell 2000; Scharrer and Christmann 2011; Voyer and Techentin 2010), some researchers (Anolli et.al 2000, 2002; Laval and Bert-Erboul 2005) suggested that a sarcastic speaker uses higher pitch. At the same time, Shapely (1987) found that pitch ranges were rather ‘flattened.’ It has been suggested that the sarcastic speaker may speak louder with increased volume (Anolli et.al 2000, 2002; Rockwell 2000; Scharrer and Christmann 2011) but Voyer and Techentin (2010) have suggested the opposite and Cheang and Pell (2007) found no difference in intensity. In addition, acoustic features other than ‘pitch’, ‘tempo’, and ‘intensity’ were observed to be crucial for utterances to be taken as sarcastic. Voyer and Techentin (2010) suggested that other acoustic characteristic features such as less pitch variation, less intensity variation, less resonance, less clarity and stress also produced significant differences between sarcasm and non-sarcasm. Cheang and Pell (2008) suggested that reduced pitch/fundamental frequency (F0), decreased F0 standard deviation and voice quality with greater amount of noise robustly marked in sarcastic utterances whereas changes in resonance and slower speech rate appeared to serve as supplementary cues.

As is evident, these diverse results suggest that no consensus has been reached in the literature on a set of acoustic features which may be most associated with perception of the ironic speaker's intent.

In response to findings on acoustic features of an ironic tone reported in these experimental studies, some studies have raised an objection to the assumption of consistency in vocal features of '*ironical tone of voice*' (Bryant 2010, 2011, 2012; Bryant and Fox-Tree 2002, 2005; Voyer and Techentin 2010). In particular, Bryant and Fox-Tree (2005:257) argued that 'there is no particular ironic tone of voice.' The points of their argument are that a) verbal irony may be accompanied by particular vocal characteristics; b) however, such vocal characteristics may not be specific to verbal irony, merely more closely associated with verbal irony than other categories of language use; c) there was no particular prosodic pattern or a set of acoustic features that 'systematically' applies to all cases of verbal irony. They pointed out inconsistencies in definition and prosodic features. They suggested that it is oversimplified and misguided to use the term '*ironical tone of voice*' without any definition and indication of associated prosodic features. Bryant and Fox-Tree (2005:272) claimed:

'Speakers are communicating multiple messages by layering propositional and non-propositional information, and providing prosodic cues in contextually dependent ways that map differently onto the simultaneously presented information... We should expect a variety of prosodic strategies to accommodate this incredible diversity of nested emotional and propositional messages. Attempts to make one-to-one mappings between acoustic parameters and ironic content seem futile from this angle.'

Bryant and Fox-Tree (2002:111) strongly suggested that *ironic tone of voice* is a complex interaction of 'local' and 'global' prosodic cues (also called 'linguistic' and 'affective' prosody) to the ironic speaker's intent. They (2002) defined 'local prosodic cues' as 'use of particular acoustic features (F0, amplitude, duration) that operate on specific syllables, words or groups of words', whereas 'global prosodic cues' involve

‘intonation contours that act on whole utterance or group of utterances characterised by five acoustic dimensions such as F0 mean, F0 range, F0 variability, amplitude variability and speech rate (p110)’. They suggested that local cues play a role in the recognition of an echoed proposition and global prosodic cues are likely to signal the speaker’s attitude towards an echoed proposition. Bryant (2010:547) later put interaction of ‘local’ and ‘global’ prosodic cues as follows:

Vocal signals produced to guide listeners’ understanding should function not only on surface linguistic features (e.g., local prosody for focus and accent), but also on multiple levels of attitudinal information conveyed by the utterance (e.g., global prosody for affective information and to signal an ironic intention).

Bryant and Fox-Tree (2002) focused on the role of local prosodic cues. In this study, they prepared utterances which could be taken as sarcastic or non-sarcastic depending on the context and then extracted the context to see whether listeners could distinguish sarcastic utterances from non-sarcastic utterances. The results showed that even in the absence of the context, the target utterances extracted from sarcastic contexts were rated significantly more sarcastic than the same utterances extracted from non-sarcastic contexts. Bryant and Fox-Tree (2002) suggested that local prosodic cues which interacted with individual lexical items might facilitate the rating of sarcasm. Later, Bryant and Fox-Tree considered acoustic features of global prosodic information as characteristics of the assumed ‘*ironical tone of voice.*’ They (2005) conducted a follow-up study which investigated the role of global prosodic cues without being affected by local prosodic cues. They created sarcastic utterances, which they described as involving ‘*dry*’ sarcasm, in which sarcastic intent was ambiguous in a written form but unambiguous in an auditory form. They eliminated local prosodic features needed to identify words in order to leave only basic global prosodic information. The results showed that listeners could no longer recognise the speaker’s sarcastic intention from filtered utterances. Acoustic analyses revealed that there was very little evidence of prosodic features which may distinguish sarcastic from non-sarcastic utterances. Bryant

and Fox-Tree (2005) also investigated whether acoustic features of global prosodic cues were uniquely associated with sarcasm. They used filtered target utterances, which they described as involving ‘*dripping*’ sarcasm, in which sarcastic intent was unambiguous both in a written form and in an auditory form. Listeners were asked to rate ‘*sarcasm judgement*’ and other ‘*emotional and linguistic judgements*’ (i.e. ‘anger judgement’ as other emotion, ‘inquisitiveness’ as non-emotional but prosodically dynamic language use, ‘given or new information structure’ as linguistic distinction judgement, ‘the degree of authority over a topic’ as a sociolinguistic distinction). The results of judgement rating revealed the high degree of similarity and overlap in global prosodic features across those different ‘emotional and linguistic judgements.’ Based on such results, a conclusion has been suggested (Bryant 2010, 2011, 2012; Bryant and Fox-Tree 2005) that there is no such ‘*ironic tone of voice*’ that is associated exclusively with sarcastic utterances. Prosodic cues that the speaker of sarcastic utterances might use are also closely related to many other emotional vocal signals (Bryant 2012:679).

In recent studies, Bryant (2010:545) argued that prosodic ‘contrast’ might be an important mechanism for communicating implicit emotional and intentional information in verbal irony, and it might be a means of understanding the traditional notion of the ‘*ironic tone of voice*’. He considers that vocal signals may contribute to both conceptual and procedural meaning (Bryant 2011:295). A prosodic contrast, according to Bryant (2011), is ‘a statistically significant and perceivable shift in some acoustic dimension across phrasal units that can signal speaker meaning and help guide listeners’ inferential processes (2011:295).’ The important thing is to know how the speaker changes vocal features during speech to indicate her intent. Thus, he focused on ‘changes’ of vocal features which have not been focused on in previous studies. Bryant (2010:556) found regularity in prosodic change across verbal ironical utterances: speakers systematically spoke slower and amplitude variability was reduced across speakers. Pitch was also

changed to a greater degree but the direction of change (higher/lower) was found to be inconsistent. He (2011) also suggested a form-function approach to understand speakers' varied vocal signals. This approach considers a form-function relationship between form of prosodic signals and the function of verbal irony, and attempts to explain how prosodic forms are 'tailored' to specific emotional communication rather than attempting to map prosodic forms onto verbal irony as one type of language use in a systematic way (2011:295). For example, an aggressive and/or critical form of irony (sarcasm) is associated with lowered pitch and noisy growl-like voice quality, whereas praise-by-blame type of irony is accompanied by rising pitch. While his study provides interesting insights, this form-function approach does not seem significantly different from the previous studies on characteristic acoustic features of '*ironical tone of voice*' which he and Fox-Tree (Bryant and Fox-Tree 2002, 2005) have criticised. It is not clear how different this form-function approach is from the assumption of a '*one-to-one mapping*' between acoustic parameters and ironical utterance. This approach seems to suggest particular prosodic forms for sub category of verbal irony, which could be described with another 'label' (e.g. "praise-by-blame ironic prosodic form").

2.3.4 *The present study's viewpoint concerning the 'ironical tone of voice'*

Discussion so far suggests that acoustic features of the '*ironical tone of voice*' are not the same in all cases of ironical utterances, even if they share some features. An attempt to identify prosodic consistency (in features of ironic tone of voice) that systematically applied to irony language phenomenon is beyond the scope of this thesis, and it is not an aim of the present study to come down on one side or the other of the debate about the notion of the '*ironic tone of voice*'.

While the present study follows the assumption that the term '*ironical tone of voice*' is useful in indicating features of the speaker's tone often associated with potentially ironical utterances, it also assumes that there is no single tone of voice used

in irony and that the tone of voice used in irony is not unique to irony. Given the key assumption of the relevance-theoretic account of irony that irony is not a natural kind (Wilson 2006), it is not surprising that ironical utterances may be produced with more than one set of prosodic features (or prosodic patterns). Irony is seen as involving the speaker's implicit expression of a characteristic attitude from a wide range of dissociative attitudes, and similarly the speaker's tone of voice may vary. There might be a multiplicity of available speaker's tones which would be consistent with the potential for ironical interpretations. Even under the same condition (the expression of the same attitude in the same context), characteristics of the speaker's tone of voice may vary from individual to individual. There is no reason to expect that the ironic speaker uses the same characteristic tone of voice in all cases of ironic speech. In addition, given that one of the echoic account's predictions is that irony involves the speaker's tacit expression of her dissociative attitude attributed implicitly, it is not surprising if differences between tones which lead to potentially ironical interpretations and tones which lead to non-ironical interpretations may be subtle. While exploiting exactly the same acoustic dimensions and features, the same prosody may not always serve as a cue to potentially ironical interpretations. In other words, there might be cases where the speaker uses a regular ironical tone of voice, i.e. the 'deadpan flat' tone, without intending to be ironic. The borderline which distinguishes each acoustic feature (i.e. pitch, tempo, intensity) of the speaker's tone when conjoined with an ironical utterance from their use in other cases may be also gradual. Given these assumptions, the term '*ironical tone of voice*' should be treated as referring to varieties of prosody which are different from the tone the speaker may have used in expressing a literal counterpart of an ironic utterance, and it should not be considered as a tone of voice that systematically associates with all cases of verbal irony.

While accepting that ironical utterances can be produced not only with the regular ‘deadpan’ flat tone but also with an ‘overly enthusiastic’ or ‘exaggerated’ one, the echoic account (Wilson 2013:46) draws a clear line between these two types of tone. The echoic account (Wilson and Sperber 2012:143) describes the latter as “...an exaggerated imitation of the tone that someone genuinely performing the associated speech act might use.” It argues that the second tone is not an ironic tone but a parodic tone of voice which the speaker uses as a parody of the actual speech act of others by mimicking the tone of voice of the person who actually makes, did make, or would make the assertion.²⁰ The experimental work presented here used these two prosodic patterns as tones of voice for potentially ironic utterances in the investigations, i.e. the regular ironic tone of voice and the overly-enthusiastic one, describing them as ‘*deadpan*’ and ‘*exaggerated*’ respectively. It assumed that the speaker’s intention of dissociation can be expressed not only with ‘*deadpan*’ tone, the one most commonly and typically used in ironical utterances, but also with an ‘*exaggerated*’ tone.

2.4 Summary

This chapter discussed ‘verbal irony’ in L1 contexts. One of the key claims of the echoic account of irony is that verbal irony necessarily involves both the speaker’s attribution of a thought to others and echoic use of language, a sub-category of interpretive-attributive representation. Ironic interpretation involves implicit attribution with an implicit dissociative attitude. The echoic account claims that verbal irony arises spontaneously with no need to be taught or learned. To understand ironic utterances, no substitution mechanism specific to irony is required: it involves cognitive mechanisms for interpretations used in basic uses of language and ostensive communicative acts. It follows the automatic working of the relevance- guided comprehension heuristic

²⁰ See Wilson 2013 and Wilson and Sperber 2012 for fuller discussion about the notions of an ironical tone and a parodic tone suggested by pretense theory (Clark and Gerrig 1984).

(procedure) which is triggered by expectations of relevance. Having developed from Grice's framework of pragmatics, the relevance- theoretic account of irony differs in three major ways: 1) the intended communicative meaning of an ironical utterance is not the opposite of the literal meaning but the expression of the speaker's dissociative attitude toward an attributed thought, 2) irony is sharply distinguished from metaphor: irony and metaphor do not share similar processes, developmental patterns or risks of misunderstanding, 3) access to a literal meaning is not obligatory in order to arrive at the speaker's meaning in an ironical utterance. Discussion of differences between the two types of accounts highlighted that the echoic account gives fuller explanations than Gricean accounts.

This chapter also considered the role prosody plays in the interpretation of irony, and in particular, the question of whether there is an '*ironical tone of voice*'. The speaker's characteristic tone of voice may play a supplementary role in some cases of ironical communication depending on how much the contextual knowledge and the background knowledge are mutually manifest between the speakers and the hearers. The diverse results from experimental works on vocal features suggested that there may be more than one type of tone in which ironical utterances can be produced. A survey of these and discussion of the role that prosodic cues play in guiding hearers towards potentially ironic interpretations gave a clearer direction to the present experimental work. The experimental work discussed here used two types of tone of voice (referred to '*deadpan*' and '*exaggerated*') each of which can be associated with potentially ironic utterances. The details of the experimental work are reported in chapter 5. The next chapter discusses how irony understanding in L2 has been explored in previous studies adopting Grice's approach to irony. This study reviews and discusses their findings from the point of view of the relevance-theoretic account of irony.

CHAPTER 3. PREVIOUS APPROACHES TO UNDERSTANDING IRONY IN L2 CONTEXTS

3.1 Overview

This chapter focuses on verbal irony in cross-linguistic and cross-cultural situations (L2 contexts). The previous chapter discussed how the echoic account (Sperber 1984; Sperber and Wilson 1981, 1995, 1998; Wilson 2006, 2009, 2013, 2014a; Wilson and Sperber 1992, 2012) explains verbal irony in a first language, contrasting this to Grice's account (1975, 1978). It also considered how prosody contributes to guiding audiences to interpret the ironic speaker's meaning. This chapter looks closely at how previous studies have explored understanding of verbal irony in L2 contexts.

Adopting a Gricean account of inferential communication as a theoretical framework, previous experimental studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011; Yamanaka 2003) suggested that second language learners of English interpret potentially ironical utterances differently from native speakers (here, specifically native speakers of American English). They suggested that lack of knowledge of the target language culture was a key factor affecting the ability of second language learners to interpret irony.

Based on the result of his first study (Bouton 1988), which showed a significant difference between non-native speakers and native speakers, Bouton questioned the universality of Grice's inferential model of communication. Bouton (1990, 1992b) suggested that different interpretations reflected cultural variability in pragmatic principles and assumed that such cultural knowledge could be acquired naturally through life experiences in the target language culture. He (1992a, 1994a, 1994b, 1999) conducted two longitudinal experiments to investigate a relation between the development of the ability of L2 speakers to derive conversational implicature and the

time they spent in the target culture. These studies showed that developmental progress with regard to the ability to understand irony through exposure alone was slow. Bouton suggested that a ‘semantic reversal formula’ for the interpretation of irony was one of the very ‘skills’ that second language learners needed to be taught and learnt. Bouton’s two studies (1994b, 1999) provided evidence that explicit instruction was effective and speeded up the developmental progress.

The present study critically discusses suggestions made by previous studies. Due to the weakness of Grice’s approach to irony, previous studies treated irony as necessarily communicating the opposite of the proposition literally expressed. Taking some ideas from the echoic account of irony, the present study argues that the point of irony is that the speaker intends to express her dissociative attitude towards an attributed thought, which none of the previous studies has considered. It also argues that the assumption is fundamentally wrong that semantic reversal formula leads a given utterance to be interpreted ironically. These theoretical issues lead to flawed experimental methods. Previous studies (Bouton 1988, 1992a, 1992b, 1994a, 1994b, 1999; Lee 2002; Manowong 2011; Yamanaka 2003) have taken for granted that native speakers always understand the speaker’s communicated meaning as intended. Based on the illusion of native speakers as norm provider, task performances of second language learners were assessed by response accuracy in choosing the same response as native speakers. The present study argues that different choices to native speakers do not necessarily indicate inabilities or failure to understand the speaker’s implied meaning. All these theoretical and methodological issues, in turn raises a question of the extent to which a widely accepted idea of L2 irony understanding that irony is the final obstacle before achieving near native-speaker fluency (Barbe 1995:4) is convincing.

This chapter is organised as follows. Section 3.2 focuses on previous studies that have applied the Gricean inferential approach to communication to their investigation

and reviews the findings from Bouton's first study (1988), studies that replicated Bouton's experiment (Lee 2002; Manowong 2011), and a study by Yamanaka (2003). These studies found that irony is the most difficult item among various phenomena of indirect language use. Next, it discusses the effects of length of residence in the target language culture and general language proficiency on development of irony understanding abilities reported in Bouton's two longitudinal studies (1992a, 1994a, 1994b, 1999) and Yamanaka's study (2003). Then, it considers the effect of explicit instruction on speeding up the developmental progress observed in experiments (Bouton 1994b, 1999, Broersma 1994). Section 3.3 reviews two other studies by Bromberek-Dyzman, Rataj, and Dylak (2010) and Shively, Menke, and Manzón-Omundson (2008). Both studies have applied theoretical approaches other than the Gricean approach and have looked more closely at inferential processes involved in the interpretation of potentially ironical utterances in L2. These studies suggested other possible factors that affect the interpretation processes of ironical utterances: limited capacity of working memory and recognition of paralinguistic cues. Section 3.4 considers two factors that previous studies have suggested affecting irony interpretation in L2: culture difference and perception of paralinguistic cues.

Previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek-Dyzman and Ewert 2010; Lee 2002; Manowong 2011) suggested the culture-dependent differences in conceptualisation and their reflections in pragmatic strategies for interpretation. On the other hand, while some studies (Lee 2002, Manowong 2011; Shively 2008; Yamanaka 2003) mentioned that awareness of prosodic cues might be another factor that affects the interpretation processes of ironical utterances in L2, none of the studies has explored this possibility further. It summarises what has been known about how non-native speakers recognise prosodic cues. Then, section 3.5 critically discusses the issues arising from these previous studies. The

present study argues that their issues are involved mainly in a) reflections of weakness of Grice's approach to irony and b) sociopragmatic approaches to interlanguage pragmatic competence. These issues in turn, cast some doubt on their suggestions about understanding irony in L2. The chapter ends with an indication of some other possible ways of investigating the nature of L2 irony comprehension, which will be considered more fully in Chapter 4.

3.2 The Gricean approach to L2 irony understanding

3.2.1 Bouton's first experiment

Bouton (1988) applied the framework of Grice's approach to communication (Grice 1967a, b/1978) in investigating the ability of non-native speakers of English (NNSs) to derive²¹ 'conversational implicatures' from a range of kinds of indirect language: irony, understated criticism, indirect criticism, scalar (quantifier/numerical scale), implicatures related to Maxim of Relation (Grice 1967a, b/1978), sequence of events (Horn 1984), and rhetorical questions, which Bouton describes as "the Pope Q".²² The results of his first experiment revealed that non-native speakers interpreted various types of indirect use of language as a whole in the same way as native speakers of American English at 75% [79.5%]²³ of the time. Significant differences were found not only between non-native speakers and native speakers of American English but also found among different cultural groups. These findings led Bouton to question the universality of Grice's

²¹ Bouton used the expression 'interpret conversational implicature' throughout his studies (1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999). Bouton (1999:47) sees 'conversational implicature' as indirect communication (1999:47). The present study does not agree with this idea and argue that 'implicature' does not refer only to indirect language uses. Thus, the words 'derive' or 'derivation' are used in this thesis where Bouton used the words 'interpret' or 'interpretation.' This matter is discussed later in this chapter.

²² Rhetorical questions such as the question 'Is the Pope a catholic?' to answer a question whose answer is supposed to be rather obvious.

²³ The figure 75% was based on the scores over all 33 items originally used in his first experiment whereas the figure 79.5% was taken from Bouton (1994b). The difference was due to the difference in the number of the testing items between the original instrument and the revised one. Over the time of his longitudinal studies, Bouton decided to take out 5 items (including 2 items of irony) due to their unreliability as testing items. Bouton reanalysed the data based on these 28 items from the revised instrument and as a result, the figure of the testing on the arrival in the first longitudinal study was raised up to 79.5%. The figure has been reported as 79.5 % in his several papers since 1994.

inferential model of communication and motivated Bouton to conduct his longitudinal experiments.

Bouton (1999:47) explained Grice's inferential model of communication (1967a.b/1978) as below:

'When the literal meaning of what someone says does not seem to provide *enough information* or to be *true* or *relevant* or *clear*, people assume that the speaker is being cooperative and that it is their understanding of what the speaker has said that is flawed, not the utterance itself- and they look for another message that might have been intended that would be appropriate to the conversational context at that moment. Messages arrive at indirectly in this way are said to be derived through the use of implicature.'

Bouton (1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999) treated 'conversational implicature' as '*a type of indirect communication*' in which the speaker indirectly conveyed her intended meaning²⁴ (1999:47). He (1990) explained that 'an implicature is a message that is conveyed indirectly by taking advantage of what Grice has called the Cooperative Principle and its various maxims (p.35).' The literal meaning of what was said in an utterance is 'direct' whereas 'implicature' is indirect or less direct than the literal meaning. He referred the term 'implicature/conversational implicature' not only to the speaker's intended meaning indirectly conveyed but also to 'inferential process of drawing context-based inferences' (1999:47).

In his first experiment, Bouton (1988) created written materials²⁵ in which participants were asked to read a dialogue and to choose the 'expected' interpretation. Prior to this experiment Bouton conducted a pilot study. He using the same scenarios as those used in the experiment and asked native speakers to describe in their own words what the speaker of each scenario may have meant by what she said. The 'expected' answers were based on the responses that formed the broadest consensus among those native speakers. He tested 436 international undergraduate students who had just

²⁴ Bouton used 'implicature' and 'conversational implicature' interchangeably throughout all his papers.

²⁵ Bouton (1988) used 33 trials in total consisting of 7 different types of conversational implicature.

arrived at a university in the US from six different cultural backgrounds: Chinese, German, Japanese, Korean, Latin Americans and Taiwanese (Bouton 1988, 1992a, 1999). He compared their task performances with those of 28 native speakers of American English (Native speakers of American English). Here are the examples:²⁶

[singing badly]

At the recent party, there was a lot of singing and piano playing. At one point, Sue played the piano while Mary sang. When Tom asked a friend what Mary had sung, the friend said:

Friend: *I'm not sure, but Sue was playing 'My Wild Irish Rose'.*

Question: Which of the following is the closest to what the friend meant by this remark?

- a. He was only interested in Sue and did not listen to Mary.
- b. Mary sang very badly.
- c. Mary and Sue were not doing the same song.
- d. The song that Mary sang was 'My Wild Irish Rose.'

[good friend]

Bill and Peter have been good friends since they were children. They roomed together in college and travelled Europe together after graduation. Now friends have told Bill that they saw Peter dancing with Bill's wife while Bill was away.

Bill: *Peter knows how to be a really good friend.*

Question: Which of the following best says what Bill means?

- a. Peter is not acting the way a good friend should.
- b. Peter and Bill's wife are becoming really good friends while Bill is away.
- c. Peter is a good friend, so Bill can trust him.
- d. Nothing should be allowed to interfere with Bill and Peter's friendship.

The results from the testing on their arrival showed that irony appeared to be one of the cases where a significant difference was found between non-native speakers and native speakers of American English. Table 3.1 below shows the difference between two groups in the four trials of irony. The results revealed irony, indirect criticism, scalar type of implicatures and 'the POPE Q' rhetorical questions turned out to be the difficult

²⁶ Bouton did not present the full description of the other two trials but only an essence of the content and the target sentence;

"Dr. Sharp made a little mistake, I hear. /Not everyone wants scissors inside them."
"We're out of . . . /Could you bring me a glass of water?"

items. On the other hand, non-native speakers interpreted implicatures related to Maxim of Relation in the expected way at almost 90% of the time on average (accuracy rate of native speakers of American English was 97.3%).

Table 3.1: Difference in accuracy rate between NSs and NNSs in the trials with irony examples²⁷ (Bouton 1988:190)

Essence of content	NSs (n=28)	NNSs (n=451)	difference
What did Mary sing? / <i>I don't know, but Sue was playing 'My Wild Irish Rose.'</i>	93%	52%	41%
<i>Peter knows how to be a really good friend.</i>	86%	39%	47%

Originally Bouton used four trials with ironical utterances in his first experiment. However, as two of them were found unreliable as an example of irony, Bouton excluded them (c.f. footnote 24). The trial with the example [good friend] displays the widest difference between non-native speakers and native speakers of American English. Only 39% of non-native speakers had chosen what Bouton took to be the expected answer (a) (*Peter is not acting the way a good friend should*). Differences were also found between cultural groups: the percentage of choosing the expected answer varied ranging from 70% for Spanish/Portuguese speakers to 33% for mainland Chinese speakers from mainland. Bouton pointed out, however, that while the majority of non-native speakers did not choose the expected answer, their choice did not vary across different cultural groups. The majority of non-native speakers had chosen the 'wrong' answer (c) (*Peter is good friend and so Bill can trust him*) instead, which he took to indicate that they had missed the irony completely. Bouton pointed out that the only variable here that makes the results of each cultural group of non-native speakers different was their cultural background as the language proficiency of all the non-native

²⁷ This table is the extract taken from the table 6, 'Evidence of NS consensus and cross-cultural difference in interpreting implicatures in English' in Bouton (1988:190).

speakers was essentially the same (the average of language proficiency level was a score of 550 in TOEFL²⁸). Bouton (1988) suggested that lack of the specific American cultural knowledge for inference or/and unfamiliarity with particular types of indirect use of language might cause the differences that were found between non-native speakers and native speakers of American English. These two factors might contribute to the obstacles that L2 speakers need to overcome for successful cross-cultural communication.

It seems worth pointing out that almost all the options in multiple-choice question in each example could be taken as communicated to some extent. Adopting Grice's account of irony that the point of irony is to communicate the opposite of the proposition literally expressed, Bouton assumed that only the option (c) (*Mary sang very badly*) in the [singing badly] example and the option (a) (*Peter is not acting the way a good friend should*) in the [good friend] example are "correctly" described interpretations of the speaker's meaning. However, as the echoic account of irony (Sperber 1984; Sperber and Wilson 1981, 1995, 1998; Wilson 2006, 2009, 2012, 2013; Wilson and Sperber 1992, 2012) suggests, irony is not clear-cut easily definable language phenomenon. Considering indeterminacies about the interpretation of the ironical utterance in these examples, it seems questionable the extent to which these accuracy rates in choosing these "expected" option revealed in previous studies (Bouton 1988, Lee 2003, Manowong 2011) represented non-native speakers' understanding of irony. This will be discussed further in section 3.5.1.

Bouton (1988) initially set out his research with the aim of exploring whether Grice's pragmatic principles and his maxims were universal. Bouton (1992b) reflected upon the results of his first experiment (Bouton 1988) and raised some doubt about

²⁸ This score is equivalent to a score of 6.5 in IELTS.

Grice's pragmatic principles as the 'structure' of all languages, and his maxims as universal rules of conversations. He (1992b: 40) pointing out that Grice's principles were developed in English argued that Grice did 'not deal directly with the possibility of extending his principles and maxims to other languages and cultures'. Bouton suggested that 'speakers from different cultural and linguistic backgrounds might use "*implicature*" differently and such implicatures may be perceived where none are intended or they may be intended but missed (1992b: 42).' He took up the findings observed in earlier studies (Devine 1982; Keenan 1976) as evidence for his argument.

Keenan (1976) reported that people in Madagascar systematically violate Grice's maxim of Quantity ('Make your contribution as informative as is required'): they refuse to supply information required since keeping such information to themselves is regarded as precious in the society, and it gives conferring status on those who have it. Keenan argued that Grice's principles and maxims for communication might be overstated and that maxims may vary situationally and cross-culturally. Devine (1982) also addressed a question of whether any situational or cultural constraints might interfere with Grice's pragmatic principle and maxims. As she (Devine 1982:195) put it:

'if as Grice suggests, these rules of conversations and the manipulation of these rules to create implicature are universal phenomena, then there should be clear cases of implicature in all languages... if Grice's maxims are genuinely universal, then they should operate across language.'

Grice (1975) suggested that since it is reasonable to follow the Cooperative Principles and maxims, the failure to fulfil the maxims must be purposeful communicative behaviour, which conveys conversational implicature or implications. Grice (1975:49) suggested that the failure to follow the maxims involved a variety of forms such as quiet and unostentatious violation of a maxim, opting out from the operation of both the maxims and the Cooperative Principles, clashing the maxims, and blatant flout of a maxim. Based on these forms, according to Grice (1975:51-52), conversational

implicature falls into three major categories: 1) 'unstated connection between remarks' (no maxim is violated, or it is not clear which maxim is violated); 2) 'clash of two maxims' (a speaker may find that two maxims clash and that it is necessary to choose one over the other), 3) 'flouting of maxims' (a speaker may choose to flout a maxim by obviously failing to fulfil the demands of the rule and not attempting to hide this from the listener). Devine (1982) adopting these categories of implicatures, investigated whether Grice's maxims operate across languages. She assessed the ability of non-native speakers to understand implicatures in L2 by comparing their perceptions of implicature in English with those of native speakers. Non-native speakers were asked to read brief situational descriptions and paraphrased them. Each description contained an example of conversational implicature. The paraphrased responses were then evaluated. Devine reported that the mixed results were found: non-native speakers and native speakers did not always respond to the failure to fulfil the maxims in the same way. For example, non-native speakers inferred implicatures in the same way as native speakers when no maxim was violated, when it was not clear which maxim is violated, or when a speaker may find that two maxims clash and so that she must choose one over the other. In terms of violation/flouting of the Maxims, depending on which the Maxim was flouted, non-native speakers interpreted given utterances in a similar way as native speakers. Especially when the maxims of quality and manner were flouted, the same interpretations were triggered. Devine considered the implied meaning of irony as the case of flouting of the maxim of quality. In her study, she used two examples of irony, which presented below:

- Bill and Peter have been friends since they were children. They roomed together in college and travelled together after graduation. Bill has just learned that Peter has been dating his (Bill's) fiancée. Bill says to a group of friends, "Peter is a fine friend."
- Professor Jones has just given a long, boring, and pointless lecture. As the students are leaving the lecture hall, one says, "We could all learn a lot from Professor Jones."

The results revealed that no significant difference was found between non-native speakers and native speakers.

On the other hand, significant differences were found in the case of flouting of the maxims of quantity and relation. In the case of flouting of the maxim of relation, native speakers succeeded 96% at the time while non-native speakers did so 70% at the time. In the case of flouting of the maxim of quantity, neither native speakers nor non-native speakers appeared to understand the implied meaning as readily: native speakers understood it 56% of the time whereas non-native speakers understood 20%. Devine reported that her study did not confirm the universality of Grice's rules of conversation: non-native speakers were not necessarily aware of use or failure to fulfil the maxims. She (1982:194) suggested that these results supported the findings from Keenan's study: how a speaker and a hearer are expected to behave with respect to the Cooperative Principle and the maxims, which she described as 'the expectations of interlocutors' vary from culture and culture and from situation and situation. She (1982:203) concluded that Grice's assertion about the conversational rules he formulated is a simplification of conversational interaction, which appeared to be a complex phenomenon.

Bouton (1992b: 38) argued that that 'implicature' was not understood as part of the structure of all language in the same way. In the light of findings of these studies (Bouton 1988, Devine 1982, Keenan 1976), he suggested that non-native speakers as a hearer (listener) need to have '*skills*' of deriving 'implicature' for successful cross-cultural and cross-linguistic communication.

3.2.2 Other studies on the ability of non-native speakers to interpret ironical utterances

Bouton's studies (1988, 1992a, 1994a, 1994b 1999) had a great influence on subsequent studies on the comprehension of conversational implicatures in L2. Lee (2002) and

Manowong (2011) replicated Bouton's studies to investigate conversational implicature understanding by Korean and Thai speakers of English respectively. Yamanaka (2003) using audio-visual materials investigated this ability of Japanese L2 speakers of English. This subsection discusses the findings of these studies.

Lee (2002) and Manowong (2011) conducted similar experiments to Bouton's first study, testing performances of Korean and Thai speakers of English respectively. They replicated the experimental design of Bouton's studies (1988, 1944a, 1944b, 1999) for their investigations. The materials in both studies included two examples of ironical utterances that were more or less the same as Bouton's examples presented just above. They also used an introspective verbal reporting method known as a post-test 'think-aloud' interview session²⁹ to explore reasons for their choice of their answers and what kinds of strategies they had used. Lee (2002) found similar results to Bouton's. Her results showed that a statistically significant difference ($p < .01$) between Korean participants and Native speakers of American English in the accuracy of choosing the 'correct' answer was found in the trial with irony example [good friend]³⁰ but not trials with other types of language use³¹. Comments from the interview session clearly pointed to the existence of different cultural norms about marriage or friendship from those of American participants. Lee (2002) suggested that in Korean male culture, the quality of a man's character is judged by his loyalty to his friends and consideration for others. Korean people saw this as fulfilling a responsibility as a good friend: it is responsible for men to take care of a good friend's wife. Another possible way of judging this situation from a Korean cultural point of view, Lee continued, was that the

²⁹ Lee (2002) conducted 'think-aloud' interview with Korean participants in Korean. Manowong (2011) did this in Thai.

³⁰ Lee (2002) adopted the context and choices of multiple-questions in the example from Bouton's studies but changed the names of characters, wording or sentences in the scenario. She also added another option as a blank so that participants could fill in an alternative interpretation in case where participants did not agree with any of four choices given.

³¹ There were only two trials where a significant difference was found. One was in this trial with irony and the other was in the trial with the example of understated negative criticism.

speaker intends to save his friend's face out of responsibility as a man. This was why Korean participants did not take the speaker as being ironic or sarcastic. Lee (2002) pointed out that Korean participants seemed to interpret a given utterance based on their own cultural values. Lee also described differences found in the results of the trial with the other example of irony [singing badly] (presented below).³² She (2002:13) reported that 73% of native speakers of American English had chosen the option d ('*Mary sang very badly*'), which she took to mean that they took this utterance as expressing the speaker's negative evaluation. While Korean L2 speakers chose the same option as Native speakers of American English,³³ comments from the interview revealed that they took the speaker's intent as '*creating humorous ambiance to liven up the conversation.*'

[Lee's version of "*singing badly*"]

At a recent party, there was a lot of singing and piano playing. At one point Sue played the piano while Mary sang. When someone who had not been at the party asked Bob what song Mary had sung, Bob said,

Bob: I'm not sure, but Sue was playing a song named "We are the World".

Question: Which of the following is the closest to what Bob meant by this remark?

- a. He was only interested in Sue and did not listen to Mary.
- b. Mary and Sue were not doing the same song.
- c. The song that Mary sang was 'We are the World'.
- d. Mary sang very badly.
- e. Other:

Korean L2 speakers took this example as a case of humour not perceiving any negative implications. Lee stated that those comments supported the view that non-native speakers interpret given utterances based on their native cultural values and norms.

The results from the study of Manowong showed that the accuracy rate of Thai L2 speakers was very low in both trials with irony examples [good friend] and [singing

³² Like the other example [good friend], although the names of characters, wording or sentences in the scenario were not exactly the same as the example [singing badly] used by Bouton, the context and choices of multiple-questions were the same.

³³ Not all the data of the percentage of NNS was reported in Table 1: Tabulations of responses for NS and NNS arranged according to the grouping of similar type of implicatures in Lee's paper (2002:8).

badly] (20% in one example and 30% in the other).³⁴ Although irony did not appear to be the most difficult type of implicature in her study, these low accuracy rates clearly indicated that Thai L2 speakers had trouble with interpreting ironical utterances. (Note that Manowong did not collect data from native speakers of English for comparison.)

Yamanaka (2003) also carried out an investigation comparing the performances of Japanese L2 speakers with those of native speakers of American English. She applied Gumperz's ideas of 'contextualization' (1992) in which both verbal and non-verbal 'signs' were playing an important role in inferential processes. As he put it:

'I use the term, "contextualization" to refer to speakers' and listeners' use of verbal and nonverbal signs to relate what is said at any one time and in any one place to knowledge acquired through past experience, in order to retrieve the presuppositions, they must rely on to maintain conversational involvement and assess what is intended. (Gumperz 1992:230)'

The experimental design of Yamanaka's study was different from the one used in Bouton's studies. Yamanaka developed an audio-visual comprehension test with an attempt to explore whether Japanese L2 speakers of English make use of verbal and non-verbal 'clues' as inferential strategies in similar ways to native speakers of American English. Excerpts from different types of TV programmes aired in the US were used for testing (i.e. comedy shows, interview programmes, group discussion situations, daytime dramas). The types of indirect use of language she investigated were irony, implied negative evaluation, parody, implicature related to the Maxim of Relation, rhetorical questions. Four examples of irony ('sarcasm', 'situational irony', 'cynicism/irony') were included. Yamanaka (2003:138), referring to Gibbs (1994:372), regarded 'sarcasm' as a 'sub- category' of irony where the speaker mocks the target's speech act (p.138). She also regarded 'situational irony' as the situation that turned out to be against one's expectation or belief (p.133). The task asked participants to: 1)

³⁴ Manowong (2011) did not indicate which one was [good friend].

choose the ‘correct’³⁵ interpretation from four multiple-choice options, and 2) write down what kinds of contextual clue(s) they used to make a choice of interpretation. The results revealed that understanding of irony appeared to be much more challenging for Japanese participants than for native speakers of American English. As shown in Table 3. 2 below, the results revealed that Japanese participants’ accuracy rate in choosing the ‘correct’ interpretations was very low compared to the native speakers of American English. She reflected that the NS standard in the example of situational irony did not reach 100 % due to a problem with contents of the distractor in multiple-choice question.

Table 3.2: Difference in accuracy rate between NSs and NNSs in the trials with irony examples

items	Japanese participants	American NSs
sarcasm	35%	100%
sarcasm	37%	100%
cynicism/irony	28%	100%
situational irony	56%	70%

Yamanaka has also found that there was a difference between native speakers of American English and Japanese participants in the contextual clue(s) they reported. She reported that Japanese participants seemed to have missed contextual clue(s) that would have guided them to interpret a given utterance correctly. Most native speakers of American English said that they had drawn the ‘correct’ answer from non-verbal clues such as the character’s tone of voice, facial expression, body language, gestures, or information from the situation of the scene. By contrast, comments collected in post-test interviews revealed that number of Japanese participants who mentioned use of these contextual clues were very few.

³⁵ Yamanaka described the ‘correct’ interpretation as ‘conforming to the NS standard (p.116)’. She did not give any further explanation about it (i.e. how she set the NS standard or what the NS standard was), but it was assumed that the NS standard was corresponding to her assumption of what the majority of native speakers would choose.

3.2.3 Bouton's longitudinal studies

Bouton (1988) suggested that lack of the specific American cultural knowledge and/or unfamiliarity with particular types of indirect use of language specific to English might contribute to the obstacles for L2 speakers to achieve successful cross-cultural communication. Bouton assumed that such culture knowledge could be acquired naturally through life experiences in the target language culture. To that end, he conducted two longitudinal experiments to investigate a relation between the development of the ability of L2 speakers to derive conversational implicature and the time they spent in the target culture.

Bouton (1992a, 1994a, 1994b, 1999) tested the same participants on several occasions (17 months, 33 months and 54 months after first tested on arrival in the US) to observe the development of the ability to derive the same implicature as native speakers, which Bouton described as "*implicature skills*" in interpreting indirect use of language in the course of time.³⁶ The results suggested that the interpretation abilities of non-native speakers for ironic examples did not follow the same developmental path as for other types. Irony remained a difficult type even after living in the target language culture for 54 months. The accuracy rate of non-native speakers to interpret other types of indirect language had increased significantly in the course of time and the difference between non-native speakers and native speakers of American English had diminished. The results showed that non-native speakers interpreted indirect uses of languages in similar ways as native speakers of American English by 17 months after the arrival (at

³⁶ The first longitudinal experiment was conducted during 1986-1991, testing non-native speakers on their arrival and 54 months later (see Bouton 1988, 1992a 1999 for the details). The second longitudinal experiment was conducted during 1990-1993, testing 375 of non-native speakers on their arrival, 17 months later and 33 months later (see Bouton 1994a, 1994b, 1999 for the details) comparing their responses to those of 77 native speakers of American English. In the second longitudinal study, Bouton developed the material he used in the first longitudinal experiment. He removed some items, which had appeared to be of questionable validity from the original 33 items, and repaired some of the contents of the rest. He also added two new items based on implicature related to the Pope Q and the one based on the example of scalar implicature used by Levinson (1983, cited in Bouton 1994a: 164). In total, 22 items of conversational implicature were used for testing. Bouton included three more items as distractors, which did not involve implicature but he did not count these three trials for data analysis (1994a).

90.6% of the time). Although “*implicature skills*” continued to develop (at 94.1% of the time after 33 months), Bouton (1994b, 1999) suggested that the growth curve seemed to be levelling off. However, the results of the same longitudinal experiment revealed that irony appeared to be a ‘barrier to effective cross-cultural communication’ (Bouton 1994a: 166). When university students who had been living in the US for between 4 and 7 years³⁷ were tested, similar results were obtained. Table 3.3 shows the growth in accuracy rate in the trials with ironical utterances.³⁸

Table 3.3: Progress in percentage of choosing the expected answer in examples of irony

Example of irony	on arrival (N=375)	17-month- group (n =34)	33-month- group (n =35)	4-7-year group (n= 34)	NSs (n=77)
[good friend]	47	53	60	56	75
[singing badly]	51	53	57	76	84

This result was parallel with the result in the first longitudinal study (1992a), where Bouton compared the data on their arrival with those collected 54 months later. In the example of irony [good friend], the accuracy rate of L2 speakers was only 50% even after 54 months. Relatively many L2 speakers had still chosen the option of literal interpretation (‘*Peter is a good friend, so Bill can trust him*’).

Based on these findings Bouton (1992a, 1994a, 1994b, 1999) suggested that the length of living in the US did not facilitate development of the ability of L2 speakers to interpret ironical utterances. Yamanaka (2003) also investigated the development of Japanese speakers’ pragmatic comprehension abilities in relation to length of residence in the target language cultural context. Her study found similar results. Her Japanese participants were categorised into three different groups depending on their length of residence in the U.S.: ‘short-term’ (0-17 months), ‘medium-term’ (18-53 months), and

³⁷ Bouton collected the data from a group of Chinese university students who had been living in the US between 4 and 7 years for comparison.

³⁸ This is extracted from ‘Table 4’ Implicatures listed in table 2 as difficult for L2 speakers’ in Bouton’s study (1999:57).

'long-term (54 months and more). The results found little effect of the length of residence on irony comprehension abilities.

Conducting these two longitudinal studies, Bouton also considered the effect of general language proficiency on the development of the "*implicature skills*." The results of his studies (Bouton 1992a, 1994a, 1994b, 1999) seem to support the view of Barbe (1995:45) that '...foreign language humour, irony, and the like are the final obstacles before achieving near native-speaker fluency.' While a definite correlation between language proficiency and "*implicature skills*" was found in interpreting other types of indirect language, language proficiency seems not to be a reliable predictor of high performance in interpreting ironical utterances. Bouton (1992a, 1994a, 1994b) found that the ability of non-native speakers to interpret ironical utterances did not increase along with the growth of general language proficiency 54 months after first tested on their arrival. Similar results were found in Yamanaka's study (2003). She reported that, while the correlation between proficiency level and accuracy in the task performance of Japanese L2 speakers was not negligible in other types of indirect language, the effect of language proficiency on the interpretation of irony was marginal. Other studies (Lee 2002; Manowong 2011) also found that interpretations of ironical utterances appeared to be difficult regardless of proficiency level.

3.2.4 The effects of explicit teaching 'skills' necessary to interpret irony

As discussed above, the results of his two longitudinal studies (1992a, 1994a, 1994b, 1999) revealed that neither the growth of language proficiency nor the length of residence showed positive effects on the development of irony interpretation abilities. Bouton (1999) suggested that explicit classroom instruction would speed up the developmental progress in non-native speakers' skill in deriving implicatures and Bouton's investigations (1994b, 1999) supported this idea. Lee (2011:12) also suggested that L2 speakers could improve their ability to observe how language is used in a

community by directing their attention to the contextual and linguistic cues that govern implicatures. There is the need for L2 learners to ‘*raise their level of critical awareness*’ not only of how knowledge of the target language culture interface with the language but also of how the speaker’s meaning was guided by what Lee called ‘*suprasegmental features*’ such as relevant gestures, facial expressions, intonations and tone. However, she did not explore this further. There have been numerous studies that have explored the extent to which the ability to understand particular phenomena of speech acts or implicatures could be taught³⁹. Although their suggestions are equally valuable, for the purpose of the present study this thesis discusses only studies that have considered the effects of teaching relevant to the comprehension of irony.

Bouton (1999) pointed out that developmental progress of L2 learners’ pragmatic comprehension abilities through living in the target language societies alone was slow and not complete. Bouton (1990:43) claimed that “‘implicature’ is often used to convey all or part of a speaker’s message... skill in the use and interpretation of implicature is a necessary element of the communicative competence of anyone who plans to be an effective participant in conversational interaction.’ He (1994a) assumed that not only specific cultural knowledge but also a specific ‘*type of reasoning*’ would enhance L2 learners’ developmental progress. As Bouton (1994b:98) put it;

‘...the opaqueness of particular implicatures in a specific situation depends to some extent on the cultural background of each of the participants involved, and we have been unable to keep the cultural makeup of the various samples *exactly* the same. However, this study suggests that another factor that makes one type of implicature difficult to learn is the type of reasoning necessary to work out the intended message.’

Bouton (1994b, 1999) categorised indirect uses of language used in his studies into two types, ‘*formulaic implicature*’ and ‘*idiosyncratic implicature,*’ depending on ‘*the type of*

³⁹ See Ifantidou (2014) for an extensive summary and an excellent discussion of previous studies on the topic of teaching pragmatic competence. See also Kasper (1997) for discussion of possibilities and limits to the teaching of pragmatic competence.

reasoning. Bouton (1994b: 98-99) considered that a structural or a semantic formula underlies the whole range of ‘*formulaic implicatures*’. Recognition of the formula as such triggers ‘*formulaic implicatures*’. Irony was considered as ‘*formulaic*.’ Bouton assumed that the underlying feature of ironical utterances is a semantic formula. Irony as well as indirect criticism, sequence of events (Horn 1984) and the ‘POPE Q’ were considered to be categorised into ‘*formulaic implicatures*’. Bouton assumed that some sort of systematic semantic formula “forms” ironical utterances. Bouton did not explain exactly what was involved in this semantic formula but treated semantic reversal formula (i.e. looking for the opposite of what was said) as a “skill” which L2 learners needed to acquire in order to understand ironical utterances. On the other hand, Bouton (1994b, 1999) treated as ‘*idiosyncratic*’ conversational implicatures where interpretations depend idiosyncratically on ‘the relationship between a particular utterance and its context that is related to specific cultural knowledge’. This type includes implicatures related to the Maxim of Relation (Grice 1967a, b/1978), the minimum requirement rules (Levinson 1983) and scalar type of implicatures (Levinson 1983). Bouton (1994b) suggested that interpretations of the ‘*idiosyncratic*’ type were based on specific cultural knowledge. He argued that interpretations of the ‘*idiosyncratic*’ type were based on ‘the speaker and the hearer having a common perception of the principles of conversation and a mutual understanding of the context of the utterance in all its complexity (p.98).’

Bouton conducted a pilot study (1994b) and an experiment (1999) to investigate the effects of explicit instruction on development in the ability of L2 learners to derive both ‘*formulaic*’ type and ‘*idiosyncratic*’ type of implicatures. “Skills” in deriving six types of conversational implicatures⁴⁰ were taught in this experiment. The results of Bouton’s

⁴⁰ The six types were implicatures related to: irony; indirect criticism; sequence of events and Pope Q (‘*formulaic*’ types of implicatures); scalar-related implicatures; implicatures related to the Maxim of Relation (‘*idiosyncratic*’ types of implicatures). See Bouton (1999) for details about ‘*formulaic- idiosyncratic*’ categorisation.

investigations (1994b, 1999) revealed that classroom instruction on specific rules and patterns was highly effective at interpreting '*formulaic*' type of implicatures including irony. On the other hand, the explicit instruction for '*idiosyncratic*' type of implicatures had no effect. Bouton stated that this result could be explained by the culture-dependent nature of the '*idiosyncratic*' type of implicatures. Bouton (1994b, 1999) and Broersma (1994) suggested that the cultural knowledge necessary for interpretations was arbitrary and varied context by context.

The instruction⁴¹ of his investigations was designed to help EFL learners to master skills necessary to derive particular types of implicature in similar way to native speakers. Each introductory session lasted from 20 to 40 minutes for one type of language use. These sessions were set as a part of the syllabus in classes of a regular university ESL course. The language proficiency of these L2 learners was advanced. Bouton tested EFL learners on their arrival. These EFL learners were then assigned to either the experimental group with the explicit instructional sessions or the control group without it. After having 6 sessions (6 weeks after the arrival), EFL learners of both groups took the same test. Their performances were assessed before and after the instruction period. Bouton advised teachers on achieving the following objectives of the instruction: making the students aware of different types of indirect communication as normal tools of indirect communication in American English. Using a hand-out with examples, teachers defined and labelled each type of indirect communication, and provided several examples of how they might work in specific contexts

- i. helping them to find examples of different types of indirect communication in both American English and in their own languages (where such examples exist)
- ii. helping them to learn to recognise and interpret indirect communication they hear in their daily interaction with others
- iii. encouraging them to use indirect communication in appropriate situations

⁴¹ See Broersma (1994) for details about the teaching sessions.

Teachers started an introductory session by introducing the topic of language use with some example. At the end of the session, teachers often asked students to introduce to the class an example of the same type of language use if it existed in their native language. By generating a dialogue of their own in English, students were given a chance to practice the ‘*skill*’ that they had just learnt. After the introductory session, more informal instruction was given every 3 or 4 days during a 6-week period. The teachers bringing up some examples in the classes occasionally reminded students of “conversational implicatures” (use of language) that had already been introduced. So L2 learners could familiarise themselves with cases of such uses of language. Below are examples of irony used in the pilot study (Bouton 1994b) and the experiment (Broersma 1994):⁴²

[an example of irony used in the pilot study]

A: Hi, Anne.

B: Hi Joan. What’s up?

A: I was wondering if I could ask a small favour of you. Would you read my Linguistics 441 paper?

B: Gosh, Joan, I wish I could, but I promised Jack I’d go bowling with him tonight.

A: *Yeah. Well, Thanks for the help!*

(Bouton 1994b: 101)

[examples used in the experiment]

Example 1: Jill has just baked a cake which looks horrible.

Jill: What do you think of my cake? Julie: *It’s a real work of art.*

What does Julie mean? How can you tell?

Example 2: George just discovered that he has to take another class when he thought he was finished with the requirements for his degree.

George: I won’t be able to graduate this semester. I have to take a course I didn’t know about.

Brenda: *You must be really excited about that!*

⁴² Broersma was a teaching assistant in ESL classrooms where Bouton’s pilot test and experiment took place. He (1994) provided a report based on teaching journals of his own and of his three colleagues, with transcripts of lessons.

What does Brenda mean?

Example 3: Sharif and Imran are talking about a friend who is failing all of his classes.

Sharif: I don't know why Fred wastes his time and money going to school.

Imran: *He's really a scholar, isn't he?*

What does Imran really think about Fred?

[Discussion]

This kind of implicature occurs when we say one thing and mean the exact opposite. Usually this kind of implicature becomes obvious when we know the context. For example, if we know that George is really upset that he has to stay for another semester, then Brenda's comment in example 2 does not make any sense. Of course George is *not* excited about his bad news. Because Brenda's comment is so obviously out of place, we know that she must mean to express a completely different idea.

[Activity (5 minutes)]

Working with a partner, develop a short dialogue which uses irony. The dialogues will be presented to the rest of the class.

(Broersma 1994:20-21)

Results from both studies (1994b, 1999) showed that the learning curve of "skills" of ironic interpretation was gradual compared to those of other types of language use, but that the performance of EFL learners in the experimental group had developed dramatically after just 6 weeks. The results of the experimental group showed that their accuracy rate had increased by 33 % in one example of irony and by 15 % in the other (Bouton 1999:63).⁴³ Their accuracy rate was as good as, or better than any of other groups (17 month-, 33 month-, 4-7 year-residence groups). On the other hand, the results from the control group showed very little increase in the accuracy rate. Bouton (1994b) claimed that even less than 1 hour of formal instruction and a certain amount of informal follow-up speeded up the progress to the same level as 3-year-resident-groups or resident groups of longer than 3 years on average. Bouton (1999) claimed that '...the clues form a pattern that is there to be taught-and subsequently to be recognized and

⁴³ Bouton (1999) did not make it clear which example each case indicated, [good friend] or [singing badly].

used (p.66)' He claimed that an awareness of underlying structural or semantic formula brought about the desired effect on development.

3.3 Other approaches to L2 irony understanding

3.3.1 Comparing irony in English as a second language with irony in Polish irony as a first language

Working within a relevance-theoretic account of irony, Bromberek-Dyzman, Rataj, and Dylak (2010) explored the question of whether understandings of irony in English as a second language lagged behind understanding of first language irony for Polish speakers. This study was unique in that it investigated the ability to interpret ironical utterances in L2 not by comparing non-native speakers and native speakers but by comparing second language and first language understanding. The participants were Polish native speakers who were third-year-university students based in Poland. They were highly proficient English language users (equivalent to score of 8.0 in IELTS). Material included two or three sentences making up mini-stories ending with a target sentence. All the target sentences were built in the same syntactic structure: subject + predicate (*be*) + positive adjective. Depending on its context, the target utterance was expected to convey either 'literal praise' or 'ironic criticism.'⁴⁴ The task was to judge whether the comment was favourable (positive) or unfavourable (negative). Participants could spend as much time as they needed reading the contexts ('self-paced reading test'). Response error rate and response time were measured. Here are some samples of test items in English.

⁴⁴ Those positive/negative opinions were validated by norming tests. Bromberek-Dyzman et al conducted two norming test; a 'probability cloze test' and a 'positivity/negativity' rating test. The result of a probability cloze test ensured that the context of each mini-story triggered an adjective that expressed the intended interpretation (negative/positive). The result of a second norming test demonstrated that the intent of a target sentence was evaluated as intended.

[Sample of items used in a study by Bromberek-Dyzman et al (2010)]⁴⁵

<p><i>Congruity condition: Positive context and positive comment (literally intended utterances)</i></p> <p>A: When he says he will help, he will help. He keeps his promises. B: He has always been ... reliable. (literal praise)</p> <p>A: He is always very precise with money. He knows exactly how much he spends on living. B: He is very ... accurate. (literal praise)</p> <p><i>Incongruity condition: Negative contexts and positive comments (ironically intended utterances)</i></p> <p>A: Although, he kept promising assistance in difficult cases, not even once did he try to help me. B: He has always been ... reliable. (ironic criticism)</p> <p>A: He never counts how much money he spends on gambling, but knows exactly how much I spend on cosmetics. B: He is very ... accurate. (ironic criticism)</p> <p><i>Distractor stories</i></p> <p>A: I haven't failed any exam this session. B: You're doing pretty bad. (ironic praise)</p> <p>A: I'm going to the Caribbean for a trip. B: You've tough life. (ironic praise)</p>

Bromberek-Dyzman et al (2010:208) reported that the results indicated that ironic criticism appeared to be more difficult to understand and required a longer time to process than literal sentences. A comparison of L1 (Polish) responses and those in L2 (English) was interesting: no statistically significant difference in error rates or response speed was found.⁴⁶ These results were congruent with a similar study by Bromberek-Dyzman and Ewert (2010). Bromberek-Dyzman and Ewert (2010) also investigated the ability to interpret ironical utterances in comparison between Polish (L1) and English (L2). The results did not show any significant difference in ironic interpretations depending on language i.e. whether the stimuli were in Polish (L1) or English (L2).

Bromberek-Dyzman et al (2010) suggested that cognitive comprehension mechanisms involved in L1 and L2 might not be different. They suggested that ‘i

⁴⁵ This is taken from table 1: Sample stories in Bromberek-Dyzman et al (2010:205).

⁴⁶ In their earlier study (Bromberek-Dyzman et al in press) the result of response time had come out differently. Their earlier study found a significant difference between L1 and L2 in response time to ironic sentences. They argued that this different outcome was caused by the forced-responding method (‘response window procedure’) used in the study. They suggested that the time required for parsing linguistic information in L2 was longer than in L1 and that this difference could become more evident when required to respond within a limited time. On the other hand, under a self-paced condition faster accessing to lexical store in the dominant language dissipates (p.210). See Bromberek-Dyzman et al (2010) for full details.

[I]rony comprehension grounded mostly in social cognition, demands the fully operationalized Theory of Mind for successful metalizing in all languages one is able to communicate in (p.211).’ They (2010:201), referring to developmental psychology research (Garfield et al. 2001; Papafragou 2002; Lohmann and Tomasello 2003; Saxe et al. 2004 cited in Bromberek-Dyzman et al 2010:201) suggested that L2 users in their experiment have already developed Theory of Mind in the childhood. Based on this assumption predicted by Theory of Mind, Bromberek-Dyzman et al. argued that L2 users who had already developed this ability in their first language should be able to comprehend irony in L2 using this ability (p.210). While suggesting that cognitive competence for metarepresenting attitudinal intentions on top of linguistic competence might be more demanding in L2 than in L1, Bromberek-Dyzman et al (2010) proposed a conclusion that there was no language-specific comprehension mechanism of the interpretation processes of ironical utterances.

3.3.2 *Understanding irony in Spanish irony as a second language*

The other was the study of Shively, Menke, and Manzón-Omundson (2008) investigated how the ability of L2 learners of Spanish to understand Spanish irony related to the development of their language proficiency. Based on a ‘*criterion of optimal accessibility to irony*’ proposed by Yus (1988, 2000), they focused on the effects of different contextual sources on interpretation processes. They suggested that, while this ability improves in accordance with both development of language proficiency and increases in experience with the target language, it was not the case for L2 learners of Spanish that the more contextual sources were available the easier it was to understand the ironic speaker’s intent as Yus predicted. Yus (1988, 2000) developed the ‘*criterion of optimal accessibility to irony*’ within the framework of a relevance-theoretic account of irony (Sperber and Wilson 1981,1995, 1998, Wilson and Sperber 1992). He commented as follows on the cognitive effort required to process ironical utterances:

The processing effort required for the interpretation of the intended ironic meaning of an utterance decreases in proportion to the increase in the number (and quality) of incompatibilities (detected by the addressee) between the information supplied by the inferential integration of simultaneously activated *contextual sources* (leading or leading plus supportive) and the information provided by the proposition expressed by the utterance.

(Yus 2000:50)

Based on the central claim of the echoic account that irony involves the expression of a speaker's attitude towards an attributed thought (or utterance), which the speaker echoes, Yus explained that the more contextual sources activated, the more efficiently and economically the speaker's dissociative attitude underlying irony is identified. Yus (1998:399) suggested that irony processing involves detection of '*incompatibilities*' between the proposition expressed by the literal contents of an utterance and contextual sources previously activated. Among seven contextual sources suggested in a *criterion of optimal accessibility to irony*⁴⁷ (Yus 1998, 2000), Shively et al (2008) focused on three contextual sources in particular: the effects of '*encyclopaedic, factual information,*' '*speaker's nonverbal behaviour,*' and '*linguistic cues.*' According to Yus (1998, 2000), '*encyclopaedic, factual information*' consists of mental representations and stereotypical information already stored in the hearers' mind, of such things as '*macrosocial norms and factual information*' and '*common sense assumptions.*' This information is activated to form a mental background of assumptions for processing new coming information. '*Speaker's nonverbal behaviour*' is information accessible via perceptual mechanisms such as recognition of facial expression, body language, tone of voice, etc. '*Linguistic cues*' are syntactic structures and vocabulary that '*alter*' their meanings to the nonliteral, ironic quality of the utterance.⁴⁸

⁴⁷ Yus (1998, 2000) proposed seven contextual sources: '*encyclopaedic, factual information,*' '*mutually manifest physical context,*' '*speaker's nonverbal behavior,*' '*addressee's background knowledge of addresser's biographical data,*' '*mutual knowledge,*' '*previous utterances of the conversation,*' '*linguistic cues.*' See Yus (1998,2000) for the details.

⁴⁸ Yus (2000:37) acknowledged that it is controversial to treat linguistic cues as proper contextual sources since many (if not all) of particular words or syntactic structures are not irony-specific. Yus suggested that linguistic cues might be supplemental cues: '*they may occasionally help the hearer in the identification of irony.*'

Shively et al (2008) used audio-visual material to investigate how non-verbal information helped to guide L2 learners of Spanish towards an ironic interpretation. In a ‘*video-enhanced task*,’ ironic utterances from actual films were used. Participants’ performance in a ‘*video-enhanced task*’ were compared with those in a ‘*written task*.’ Below is a sample of three task questions.

[Task questions used in a study of Shively et al (2008)]

Question #1: What does Alberto mean by this comment?

Question #2: What is the tone of Alberto’s comment? (Check all that apply)

- | | | |
|--------------------------------------|---|---------------------------------------|
| <input type="checkbox"/> Encouraging | <input type="checkbox"/> Authoritative | <input type="checkbox"/> Sad |
| <input type="checkbox"/> Sincere | <input type="checkbox"/> Sarcastic/ironic | <input type="checkbox"/> Critical |
| <input type="checkbox"/> Joking | <input type="checkbox"/> Friendly | <input type="checkbox"/> Enthusiastic |
| <input type="checkbox"/> Helpful | <input type="checkbox"/> Other: _____ | |

Question #3: Have you seen this movie before? (Circle one)

Yes No

Shively et al (2008) reported that, while the results showed the effects of language proficiency and exposure to Spanish culture, accuracy rates⁴⁹ for perceiving irony as a whole were relatively low in both the *written task* and the *video-enhanced task* varying from 9% to 50%. The results revealed that response accuracy in the *written task* was higher than the one in the *video-enhanced task*. Shively et al (2008) suggested that these findings indicated that an audio-visual context could help more advanced learners.

Shively et al explained these findings by considering the limited capacity of second language learners’ working memory (Schmidt 1992; Shiffrin and Schneider 1997).

Shiffrin and Schneider (1997) claimed that the cognitive demands of processing stimuli from various sources are very complex with attention needing to be focused on different

⁴⁹ For data analysis Shively et al (2008) coded each participant’s description of the meaning of the target comment to task question # 1: if their description was either explicitly mentioned or described the opposite of the literal meaning or included the words “sarcasm” or “irony,” they were coded as “understanding the irony.” On the other hand, the code “non-understanding the irony” indicated the cases where their description showed that the student interpreted the meaning of the comment literally or the student did not understand either the literal or the figurative meaning of the utterance in question. If response was impossible to judge by their wording it was coded as “unclear” (p.117).

components (lexical, syntactic, prosodic, pragmatic). These studies suggested that processing of inputs in L2 is more controlled (cited Shively et al 2008:125). A video-enhanced task in the experiment by Shively et al (2008) included not only written input (i.e. a brief synopsis) but also auditory and visual inputs (i.e. prosodic information, facial expression, body language and information about the physical environment). Shively et al (2008) suggested that the cognitive demands of processing of information in a *video-enhanced task* might be more taxing than those in *the written task*. As Shively et al (2008) put it:

If learners were focusing their attention on lexical items and syntax in order to work out the meaning of the utterances in the dialogue of the movie scene, it is possible that they were not attending to other contextual cues such as intonation or mismatch between literal meaning and context.
(Shively et al. 2008:126)

They explained that an audio-visual context assisted more advanced learners interpret ironical utterances because they have more cognitive resources available to pay attention to a range of contextual sources than lower proficiency learners. They suggested that this was due to differences between learners of different proficiency in constraints on automaticity and working memory (p.128). These results seem to be consistent with findings from Yamanaka (2003). Yamanaka (2003) compared the accuracy rate of her participants with those of the participants who participated in Bouton's first studies (1988, 1999). She found that the accuracy rate of Japanese participants in choosing the 'correct' interpretation in her study was much lower than those in Bouton's studies. Yamanaka suggested that differences in the results might be caused by the different experimental designs: while Yamanaka used the audio-visual material with time limits, Bouton used written materials with no time limit. She pointed out that the audio-visual material included much more information from different sources and suggested that Japanese participants could not process as much information as native speakers of American English. Findings from these studies indicate the

influence of limited cognitive resources on non-native speakers' interpretation processes. However, neither Shively et al (2008) nor Yamanaka explored this further.

3.4 Suggested factors affecting interpretations of irony

While providing empirical evidence for a difference between non-native speakers and native speakers in interpreting ironical utterances, previous studies suggested possible underlying factors. This section looks in particular at two possible factors suggested by previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek-Dyzman and Ewert 2010; Lee 2002; Manowong 2011; Shively *et al* 2008; Yamanaka 2003): culture-dependent differences and differences in the perception of paralinguistic cues.

3.4.1 Culture-dependent differences

Previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek-Dyzman and Ewert 2010; Lee 2002; Manowong 2011; Yamanaka 2003) suggested culture-dependent differences as a main factor affecting non-native speakers' interpretation of ironical utterances. They stressed two points: an important role that one's culture-related notions play in constructing contextual assumptions (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek- Dyzman and Ewert 2010; Lee 2002; Manowong 2011), and the influence of cultural variations on inferential strategies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b; Lee 2002; Yamanaka 2003).

While claiming that cultural variation and/or lack of knowledge about the target culture might cause non-native speakers to interpret a given utterance in a different way to native speakers, each researcher suggested what aspects of culture were related. For example, Lee (2002) and Manowong (2011) suggested concepts such as values, norms, belief, personal biases, personal experience, and stereotypes might be culture specific. Bromberek-Dyzman and Ewert (2010) suggested that relevant cultural aspects were

concepts and representations of the world. On the other hand, Shively *et al* (2008:106) referred to Bell (2005:4) suggesting that although irony may be universal as a language phenomenon, its use may be culture-specific involving specific topics, form and styles of language, and contextual clues.

Bouton (1990, 1992b) claimed that ‘speakers from different cultural and linguistic backgrounds might use “*implicature*” differently and such implicatures may be perceived where none are intended or they may be intended but missed (1992b: 42).’ Bouton (1990, 1992b) suggested that it is crucial that the speaker and the hearer share not only the communication principles but also the same perceptions in order to construct mutual context and thus, in turn achieve successful communication. Bouton (1992b: 38-39) referring to Grice (1975), suggested the following four perceptions that both parties of the conversation are expected to share:

‘...Grice himself (1975) had pointed out that in order for the hearer to understand the same message from an implicature that the speaker intended it to have, both people must have a common perception of at least four crucial factors related to the context in which the utterance occurs. They must agree on 1) what the conventional meaning of the utterance involved is, 2) how the Cooperative Principle and its maxims are defined and whether they should be brought into play in interpreting this particular utterance, 3) how the context in which the utterance occurs should be constructed, and 4) how the world must be viewed in order to draw the particular inference intended. These factors are quite sweeping and demand a great deal of common ground between a speaker and a listener if the implicatures they use are to be mutually understood.’

However, based on the result of experimental studies (Bouton 1988, Devine 1982; Keenan 1976) which had cast some doubt on the universality of Grice’s Cooperative Principle and the maxims, Bouton (1990, 1992b) argued that perceptions that are involved in factor 2), factor 3), and factor 4) vary across cultures. Bouton (1990: 44) demonstrated an example of different perceptions between a native speaker and a non-native speaker. Suppose that you stopped by your friend’s house to return something you had borrowed from her. She said to you ‘*Hi...come on in. I’ve got the coffee pot*

on.’ According to Bouton (1990), she would intend to mean something like ‘*Come on in and have some coffee. I’ve just made a fresh pot so it ought to taste good.*’ He (Bouton 1992b: 44) demonstrated how non-native speakers might arrive at different interpretation to this one:

‘... The assertion that she has the coffee pot on, taken as a simple statement of fact concerning the state of her kitchen at the moment, is rather strange. But, of course, another possible interpretation of the utterance immediately comes to mind, i.e. its function as an offer of a fresh cup of coffee and the fellowship that goes with it. And this, then, is what you take your friend’s message to be. It is unlikely, of course, that anyone familiar with American culture would misunderstand what your friend said... NNS [non-native speaker] sometimes turn down an invitation to “go get a cup of coffee” with the simple comment that they “don’t feel like having a cup at the moment.” In these cases, the NNS takes the invitation to have coffee literally and misses the additional offer (through implicature) of a chance for those involved to enjoy each other’s companionship. They do not realize that in turning down the offer of coffee, they reject the offer of companionship, too.’

He (1992b: 39) suggested that the potential for misunderstanding would expand in cross-cultural communication as people from different cultures construct the context based on their own culture-related concepts.

Bouton (1990) explained that difficulties that non-native speakers had faced with examples of irony in his studies were related to factor 4) above: ‘how the world must be viewed in order to draw the particular inference intended’. He (1988, 1994a, 1994b) suggested that the interpretation of the ironical utterance in the [good friend] example seemed to be based on ‘an entirely different cultural attitude towards marriage and friendship.’ He considered that difficulties were ‘related to specific points of American culture in the substance of the test item and not to the type of implicature involved, and in that sense, the problems caused by these items were arbitrary and idiosyncratic (1994a: 163).’ Lee (2002) and Manowong (2011) replicating Bouton’s first study (1988), suggested that non-native speakers seemed to interpret this example of irony [good friend] based on their own culture-related concepts. However, it must be pointed out again that not all the participants of native speakers took the speaker’s meaning of

this [good friend] example as such (*'Peter is not acting the way a good friend should'*). This seems to indicate that it cannot be taken for granted that people who have the same cultural backgrounds construct the same contextual assumptions. Inevitably concepts such as values, norms, belief, personal biases, personal experience, and stereotypes vary at individual level before cultural level. It does not seem unrealistic to suggest from this that there might be factors causing different interpretations or misunderstandings other than culture-dependent difference.

Bouton assumed that such culture knowledge could be acquired naturally through life experiences in the target language culture. However, as mentioned above, both Bouton's longitudinal studies and the study of Yamanaka revealed that length of living in the US did not positively affect the ability to understand irony. Bouton pointed out that the 'arbitrary and idiosyncratic' nature of cultural knowledge might prevent individuals from developing pragmatic comprehension abilities. As he (1994b: 98) put it:

'...it is because the hearers do not understand one or more points related to the nature of utterance, the context, or both, as the speaker does. It follows that to learn to understand a particular relevance-based implicature, the NNS [non-native speakers] must learn the relevant culture points on which it is based. Given the complexity of the context of some implicatures, it is not surprising that at least some of them based on relevance that are opaque to NNS when they arrive remain impenetrable even after a relatively long stay in this country.'

His longitudinal studies (1994b) indicated that the development of the ability to understand the speaker's intent in socially and culturally oriented types of indirect utterances was slow. Explicit instruction has been also proved ineffective. Bouton (1994b, 1999) reported that it was quite difficult not only to learn but also to teach "skills" for socially and culturally oriented types of indirect utterances. There seems to be no quick way to learn cultural knowledge systematically. Bouton (1999) suggested that 'time seems to be the only factor that correlates with an overall improvement in

understanding relevance implicature (p.64)'. On the other hand, the results of Bouton's longitudinal studies suggested that, even in the cases where a definitive effect of longer length of residence manifested itself, the effect had begun to wear off after the first 17 months.⁵⁰ In recent literature on interlanguage pragmatic comprehension abilities the effect of length of residence has been reconsidered from a viewpoint of 'quality' of contact or exposure. In more recent literature on interlanguage pragmatics, individual differences in terms of the amount and/or opportunities of interaction with native speakers has been taken to be more effective than length of residence on acquisition of the pragmatic rules in speech acts (Ahn 2007; Eslami-Rasekh 2005; Eslami and Ahn 2014; Matsumura 2003; Ren 2013a; Wray 1999). However, it has remained uncertain to what extent L2 irony interpretation abilities are developed through acquisition of pragmatic rules and skills (if any) or acquisition of cultural knowledge, or both. What should be taken into consideration as a positive effect on development of pragmatic comprehension abilities might be not 'length of time (quantity)' spent in the target culture but 'immersion (quality)' or the amount of contact or exposure to the culture. Kasper and Rose (2002:196) argued that the pragmatic comprehension ability of L2 speakers may be more correlated with quality of social contacts with native speakers and amount of exposure to the target language culture rather than a quantitative measure of length of residence. Kasper (1998:200) mentioned that 'sustained contact with the target language and culture may be required to attain native pragmatic knowledge and skill (cited Eslami and Ahn 2014:13).' Yamanaka suggested that not just the length of residence but the immersion into the target language culture might facilitate accumulation of knowledge about the culture more efficiently. She considered that non-native speakers' awareness of non-verbal clues might be facilitated by deeper

⁵⁰ There have been some studies that reported significant effects of length of residence in the target language culture on the ability to understand various phenomena of speech acts (Blum-Kulka and Olshtain 1986; House 1996; Takahashi and Beebe 1987; Röver 1996).

immersion such as higher amounts of interaction with NSs or television viewing in the target language, field of study or occupation, etc. Although Yamanaka (2003) collected background information of Japanese participants regarding the amount of interaction with the target language culture, Yamanaka has not further investigated the effect of the amount of exposure and interaction with the target language culture. Contrary to the suggestions of those studies, however, there is counterevidence. Taguchi (2005, 2007) examined the extent to which EFL learners in Japan understand the speaker's intent in indirect replies such as implied negative opinions, indirect refusals of requests, and disclosures. The empirical results suggested that EFL learners could improve interpretation abilities even though they were living in a foreign language context where exposure to pragmatic conventions and socio-cultural practice in the target language were extremely limited. Taguchi argued that '...exposure to the target language context and culture is not the only contributing factor in pragmatic development (2007:328).'

The effect of cultural variations on inferential strategies has been also suggested (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1999; Lee 2003; Yamanaka 2002). Based on the result of his first experiment (1988), Bouton (1992b: 40) criticised Grice's inferential model of communication as one that accounts only for English. He (1999:48) considered 'conversational implicature is a part of any native speaker's communicative competence.' It should be noted that Bouton (1990, 1992b) extended Grice's idea of implicature so far as to say that "conversational implicatures"⁵¹ is an inferential 'strategy' for successful communication. Based on this idea, he (1990:38) went on to argue that "use of conversational implicature" was not necessarily an "unremarkable and ordinary strategy" in cross-cultural and cross-linguistic communication. However, this is wrong, if not, misleading at least. Bouton was not clear about which of Grice's

⁵¹ I use double quotation marks when the terms 'implicature' or 'conversational implicature' are used in Bouton's sense, not strictly in Grice's sense.

maxims was culture-specific. Devine and Keenan clearly indicated which maxims or implicatures they took to be culture-oriented: Keenan claimed that Grice's maxim of Quantity was not applicable to Madagascar's society, and Devine's study was taken to suggest that flouting of the maxim of quantity and relation may not trigger the same implicatures in all cultures. Bouton did not explain further what he meant by 'inferential strategies'.

On the other hand, Lee (2001:13) suggested that both Korean L2 speakers and American native speakers seemed to arrive at interpretation through logical reasoning. Lee argued, however, that the "reason" that give rise to reasoning differed between the two groups. According to Lee, since logical reasoning is based on their own cultural norms and values, there is a high risk that cross-cultural communications might result in miscommunication. The results of further statistical analysis⁵² and reanalyses of some qualitative data from the post-test interview provided some evidence for this. Lee (2002:10) categorised indirect language used in her experiment into two different types: '*generalised*' implicatures or '*particularised*' implicatures. She suggested that interpretations of '*particularised implicatures*' were guided by culture-related contextual cues and non-linguistic cues (2002:10). The results showed that a statistically significant difference between two sample groups was found only in '*particularised implicatures*.' According to Lee, especially '*contextual cues*' were based on cultural aspects such as cultural values, norms, beliefs or personal experience of the target language culture.

Yamanaka's study (2003) revealed that Japanese participants did not make use of the contextual clue/s in the same way as Native speakers of American English. Based on

⁵² Lee (2002:10) ran a Pearson correlation coefficient test and Cronbach's alpha test. She reported the result of the Pearson correlation coefficient test as showing that "...the items within the Particularized and Generalized category had moderately high inter-item correlations and had very low or negative correlations with items in the other category." She also reported the result of Cronbach's alpha test as showing that "Cronbach's alpha for these two constructs was .59 for Particularized Conversational Implicatures and .54 for Generalized Conversational Implicatures."

Gumperz's ideas of 'contextualization' (1992), Yamanaka (2003:108) suggested that the speaker's intended meaning was universally inferred through 'connecting what is being said to the relevant context', irrespective of language. On the other hand, she suggested that contextual clues in which situation the hearer attends to for inference might be culturally specific. Yamanaka (2003) considered that the use of sarcasm or ironic remarks is 'well-recognized strategies of indirect expression in American English (p. 137),' and suggested that cultural aspects might affect use of contextual clues as inferential "strategies."

Relevance theory (Wilson and Sperber 2002:254) explains that relevance-orientated human cognitive system operates in ways that our perceptual systems are organised to monitor and select potentially relevant stimuli, our memory retrieval systems are organised to activate potentially relevant background information for constructing assumptions, and our inferential systems are organised to maximise derivable cognitive effects in the most efficient way. Within relevance theory (Clark 2013; Sperber and Wilson 1995; Wilson 2014; Wilson and Sperber 2002), communication is treated as '*ostensive*' from the speaker's (communicator's) point of view, and '*inferential*' from the hearer's (audience's) point of view (ostensive-inferential communication). The speaker intends to communicate something by producing an ostensive act, and the hearer makes inferences about the speaker's communicative intention. Claiming that human cognition is relevance-orientated relevance theory suggests that for successful communication an utterance should achieve enough cognitive effects without gratuitous efforts to be worth the hearer's attention to satisfy his expectation of relevance. The speaker's task is to formulate the utterance with enough effects to justify processing effort involved so as to lead his audience to the right direction, and the hearer's task is to identify the interpretation that the speaker might reasonably have intended to convey.

An ostensive stimulus /input (e.g. utterance) is relevant to the hearer and his expectation of relevance will be satisfied if he derives an appropriate implicature.

These previous studies suggested the culture-dependent differences in contextualisation for interpretations and their reflection in pragmatic strategies. While the present study does not deny an important role that culture plays during inference at work, it points out that their discussions were all descriptive. Given that the human cognitive system operates based on individual's expectations of relevance, cultural differences might not be the only factor affecting non-native speakers' inferential processes. It does not seem irrational to suggest different ways to look at differences in the interpretation processes. The present study taking some ideas from relevance-theoretic account offers systematic explanation about how cultural variations affect the way in which non-native speakers arrive at different interpretations in chapter 4.

3.4.2 Difference in recognition of prosodic cues

Lee (2002) and Manowong (2011) conducted post-test 'think-aloud' interview sessions to explore '*the types of strategies*' L2 speakers used for interpretations. They suggested that non-native speakers' awareness of paralinguistic cues i.e. the speaker's tone of voice seems to be promising factor that can affect interpretation of ironical utterances apart from the influence of cultural variations. Both Lee (2002) and Manowong (2011) suggested that L2 speakers relied "too much" on 'translation strategies,' translating an utterance word by word transferring word meaning from their native language. Such translation strategies might be a 'blockade' preventing second language speakers from making use of non-verbal and paralinguistic information for inference. Lee (2002) pointed out that while comments from native speakers of American English in the interview clearly indicated the importance of non-linguistic cues for derivation of implicatures, there was no such comment collected from Korean L2 speakers: she (2002:11) reported that 'they [NNSs] did not comment at all on how the intonation or

tone would have changed the meaning of expression.' On the other hand, Manowong (2011:145) reported that there was one Thai participant who mentioned that she tried to imagine how the character of the target utterance would express herself or himself in terms of tone of voice, intonation, facial expressions and the like. Lee (2011:12) suggested that L2 speakers could improve their ability to observe how language is used in a community by directing their attention to the contextual and linguistic cues that govern implicatures. There is the need for L2 learners to '*raise their level of critical awareness*' not only of how knowledge of the target language culture interface with the language but also of how the speaker's meaning was guided by what Lee called '*suprasegmental features*' such as relevant gestures, facial expressions, intonations and tone.

Based on replies to the second task questions (the contextual clue/s used to choose one interpretation from the four multiple-choice options), Yamanaka (2003) reported that most native speakers of American English had chosen the answer based on non-verbal clues such as the character's tone of voice, facial expression, body language, gestures, or information from the situation of the scene. She examined comments from Japanese participants who did not choose the '*correct*' answer, and found that they did not mention the contextual clues that would have led them to interpret a given utterance correctly. According to Yamanaka, these comments clearly indicated that Japanese participants did not perceive tone of voice of the character as much as native speakers in the trials with sarcasm in particular. Broersma (1994), reflecting on the explicit teaching sessions, pointed out that a challenge for ESL teachers might be how to teach the role of intonation in irony in interactions with the context.

To my knowledge the only study focusing on this is the study of Shively et al (2008). They have attempted to investigate the potential role of recognition of the speaker's tone of voice as a contributing factor to different interpretations for non-

native speakers and native speakers. They (2008:112-114) used scenes extracted from films where the speaker used particular prosodic contours, which they termed ‘normal intonation,’ ‘prosodic tone of false sincerity,’ ‘a matter-of-fact tone of voice,’ ‘a high-pitched tone that diverges greatly from the pitch of the surrounding utterances,’ and ‘lightheaded and joking’. Among three task questions (repeated below again for convenience), one task question (Question #2) was designed to ask whether participants perceive irony from the speaker’s tone of voice.

[Task questions used in a study by Shively et al (2008)]

Question #1: What does Alberto mean by this comment?

Question #2: What is the tone of Alberto’s comment? (Check all that apply)

- | | | |
|--------------------------------------|---|---------------------------------------|
| <input type="checkbox"/> Encouraging | <input type="checkbox"/> Authoritative | <input type="checkbox"/> Sad |
| <input type="checkbox"/> Sincere | <input type="checkbox"/> Sarcastic/ironic | <input type="checkbox"/> Critical |
| <input type="checkbox"/> Joking | <input type="checkbox"/> Friendly | <input type="checkbox"/> Enthusiastic |
| <input type="checkbox"/> Helpful | <input type="checkbox"/> Other: _____ | |

Question #3: Have you seen this movie before? (Circle one)

Yes No

Shively et al (2008) intended to analyse participants’ responses to this task question together with the first task question (Question #1), which was designed to assess how participants interpret ironical utterances as an indication of participants’ perception of irony. They expected that their response to the task question about the speaker’s tone (Question #2) should be interpreted as the descriptor of ‘*sarcastic/irony*’ if participants understood the speaker’s intent as ironic or sarcastic. However, the results showed that responses to the task question about tone were not consistent with their responses to the first task: while their responses to Question #1 (open-ended question) clearly indicated that they understood the speaker’s ironic or sarcastic intent, the responses to Question #2 did not correspond to it (i.e. participants did not select the ‘*sarcastic/irony*’ descriptor). Thus, Shively et al. (2008:116) treated such data as “observed inconsistency” and decided to exclude responses to the question concerning the speaker’s tone from further analysis. Shively et al. (2008:116) explained that this

observed inconsistency seems to reflect that some students did not interpret irony and sarcasm as “tone”. The present study argues that a problem with the results lies in how Shively et al considered ‘the speaker’s tone.’ Neither of the descriptors ‘irony’ nor ‘sarcasm’ can be interpreted as tone. Given that irony is not a ‘natural kind’ as suggested by relevance-theoretic account of irony, there is no reason to assume that participants need to be able to label the paralinguistic aspects that the speaker shows such as tone, facial expression or body language as ironic in order to understand ironic utterances. These are generic names or labels for phenomena related to figurative use of language, which Kreuz (2000:14) called ‘rhetorical label.’ ‘Tone’ phonetically refers to movement or level of pitch. As discussed in the preceding chapter, the speaker’s tone is considered to convey information about the speaker’s emotional state or attitudes. However, neither ‘irony’ nor ‘sarcasm’ refers directly to a speaker’s emotional state or attitudes. The ability to understand the ironic speaker’s intent and the ability to label tone of voice as ‘irony’ are two different abilities (Kreuz 2000). Shively et al acknowledged that the ability to understand irony should not have been measured by labelling the speaker’s tone as ‘irony’ or ‘sarcasm’ and that the option ‘*sarcastic/irony*’ should not have been included as a descriptor. In fact, Shively et al (2008:116) reported that some participants chose other options that described the speaker’s emotional state or attitudes such as ‘critical’ or ‘joking’ instead. This indicates the possibility that some L2 learners might have understood the ironic speaker’s intent from the tone. If the data in responses to these task questions had not been discarded, interesting findings about L2 learners’ recognition of the ironic speaker’s tone might have been available and could have been used to explore more relations between perceptions of the speaker’s attitude and each of these prosodic contours.

One study (Taguchi 2002) reported that Japanese L2 learners frequently derived the implied meaning in indirect refusal and indirect opinion via recognition of the speaker’s

acoustic information (*'paralinguistic cues'*). It was evidenced in Taguchi's study (2002) that Japanese L2 learners could be deriving the implied meaning through paralinguistic cues even when they did not understand the proposition literally expressed by a given utterance or they did not know the meaning of some words. Taguchi (2002) suggested that paralinguistic information such as pause, intonation, or speech rate could play an important role in understanding the speaker's expression of attitudes and emotions.

Previous experimental studies provided challenges for future experimental research on L2 irony understanding. A question about non-native speakers' recognition of paralinguistic cues during processing of ironic utterances is certainly one of the challenges.

3.5 Critical discussion of previous approaches

This section critically discusses issues arising from previous studies. Some issues seem to stem mainly from problems with the theoretical approaches that previous studies have applied to their investigations. Theoretical issues lead to methodological issues, and this, in turn, makes their suggestions questionable. In most these studies, ironic interpretations were investigated collectively with other forms of indirect language use (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Bromberek-Dyzman et al 2010; Manowong 2011; Yamanaka 2003). In addition, the data concerning the ability of non-native speakers to understand irony were considerably small. This section discusses issues involved in reflections of weaknesses of Grice's approach to irony and sociopragmatic approaches to interlanguage pragmatic competence.

3.5.1 Weaknesses of Grice's approach to irony

Grice proposed an inferential model of communication which opposed the classical code model and suggested that interpretation of irony is triggered by recognition of the speaker's blatant flout of maxims, not via recognition of a semantic formula. However,

Grice clung to the idea that the related proposition (the substituted meaning that the hearer should look for when understanding irony) was the opposite of the literal meaning. This is why his account of irony was described as a ‘modern-dress’ variant of the traditional account (Wilson 2006:1723). Within the theoretical framework of Grice’s account of communication in general and his approach to irony in particular, previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011) assumed that the ability of non-native speakers to understand irony in L2 should manifest itself in interpretations of a given ironical utterance as expressing the opposite of the proposition expressed by the literal contents of the utterance. This central claim of Grice’s account has been theoretically questioned and empirically disconfirmed. While many different theories of irony exist in the field of pragmatics, the majority of the theories have come to the consensus that the opposite of what was said is neither the point of irony nor the meaning that the speaker intends to imply.

Bouton (1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999) looked for some ‘*patterns*’ or ‘*rules*’ of ironic interpretation that L2 learners should acquire. He assumed that ‘semantic reversal’ (i.e. meaning the opposite to the proposition literally expressed) is the formula that forms a pattern for ironical utterances, and that interpretations of irony are governed and constrained by this semantic formula. This issue stems from a serious weakness not only in the Gricean account but also in the classical accounts. As discussed in the preceding chapter, the echoic account of irony assumed that the speaker’s meaning in ironical utterances is more or less likely taken to be implicitly attributive with an implicit dissociative attitude. If the relevance-theoretic approach is right, investigations should focus on whether non-native speakers understand 1) the speaker’s dissociative attitude to the thought or utterance represented; 2) attribution of that thought or utterance to someone other than the speaker at the time of utterance. These two points have often not been considered in previous studies, which indicates

that the ‘scope’ of what counts as an ironic interpretation in their theoretical framework, Grice’s account of irony is wrong. Here is an example of irony that previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011) used in their experiment (repeated here again for convenience):

[good friend]

Bill and Peter have been good friends since they were children. They roomed together in college and travelled Europe together after graduation. Now friends have told Bill that they saw Peter dancing with Bill’s wife while Bill was away.

Bill: *Peter knows how to be a really good friend.*

Question: Which of the following best says what Bill means?

- a. Peter is not acting the way a good friend should.
- b. Peter and Bill’s wife are becoming really good friends while Bill is away.
- c. Peter is a good friend, so Bill can trust him.
- d. Nothing should be allowed to interfere with Bill and Peter’s friendship.

Option (a) was treated as the ‘correct’ answer that non-native speakers were expected to choose. How the hearer takes the speaker’s meaning entirely depends on how one sees this behaviour ‘dancing with best friend’s wife.’ If this behaviour was against one’s norm or expectation about ‘good friends’ (i.e. ‘a good friend of anyone dare not to flirt with his wife or girlfriend’), the speaker’s intent would be to express dissociative attitude. On the other hand, if it was accepted in one’s norm or achieved one’s expectation, other choices could be possibly taken as one of a set of assumptions about the speaker’s meaning. Suppose you come across the same situation in your real life, then all the options could be taken as implicated to some extent. All the options in fact represent the possible range of pragmatically inferred meanings communicated from this context.

The same argument can apply to another example of irony used in previous experimental studies (repeated below for convenience).

[singing badly]

At the recent party, there was a lot of singing and piano playing. At one point, Sue played the piano while Mary sang. When Tom asked a friend what Mary had sung, the friend said:

Friend: *I'm not sure, but Sue was playing 'My Wild Irish Rose'.*

Question: Which of the following is the closest to what the friend meant by this remark?

- a. He was only interested in Sue and did not listen to Mary.
- b. Mary sang very badly.
- c. Mary and Sue were not doing the same song.
- d. The song that Mary sang was 'My Wild Irish Rose.'

In the same as the other example [good friend] above, all the choices could be taken as communicated to some extent. All the options are appropriate because it depends on the speaker's intention: the speaker intends to offer some judgement of Mary's singing in option (b), option (c), and option (d). If the speaker intends to give a simple answer to Tom's question of what song Mary sang, then option (c) and option (d) are appropriate as higher explicature. On the other hand, even (a) could be seen to be weakly implicated. The problem with these examples reflects the weakness of Grice's account of irony, which treats irony simply as communicating the opposite of the proposition literally expressed. As discussed in the preceding chapter, at which point irony stands within the range of pragmatically inferred meanings of a given utterance is much less clear-cut and it is rather gradual (Wilson 2006). The resulting interpretation of a given utterance can suggest that the speaker is being ironic, but it cannot be assumed that irony is expressed by the opposite of what the speaker said.

The present study argues that Bouton's idea of semantic reversal formula which forms a pattern of irony (so Bouton assumed) is fundamentally wrong. Interpretation of irony is not governed by any formulas or semantic rules. There are obvious counterexamples where a semantic reversal formula or similar patterns do not work. Consider the following examples again. Consider the same examples, which were discussed in preceding chapter (chapter 2, section 2.2.4) as repeated below:

(11) On a night in October when the temperature in London drops to minus 10 c°:

Ben: *It's a bit chilly tonight.*

(12) Both Paul and Jim know that Mary is a terrible cook. Jim heard that Mary is preparing a pork pie, which she never cooked for Paul's birthday:

Jim: Mary is cooking her very first pork pie specially for your birthday.

Paul: *Yay!*

(11) is a typical example of ironical understatement and (12) is an example of ironical interjection. If a semantic reversal formula existed in these examples, what Ben meant by the utterance in (11) would be something like 'It's NOT chilly tonight' or 'It's A LOT chilly tonight,' and it would presumably be something like 'NOT Yay' in (12). Clearly, these do not represent what the speakers in (11) and (12) meant. It is hard to see what would count as the opposite of what was said in those examples. Successful communication cannot be guaranteed if L2 speakers interpret these ironical utterances following this kind of semantic reversal formula.

This leads to another argument against the validity of the effect of explicit instruction reported in Bouton's teaching experiments (Broersma 1994; Bouton 1994b, 1999). Semantic reversal formula was explicitly taught as '*skills*' that L2 learners need to acquire. As discussed above, only prototypical irony was introduced in the classroom. It is beyond doubt that ironical utterances like (11) or (12) above do not embed in such semantic reversal formula. Although the effect of explicit instruction appeared to be significant, explicit instruction teaching that the opposite of what is said is the key to interpret ironical utterance is wrong.

It seems that Bouton suggested teaching formula as skills in deriving implicatures based on a sociolinguistic approach to communication. In the field of interlanguage, 'pragmatic competence' is broadly defined as the ability of non-native speakers to communicate appropriately in a sociocultural context (Ifantidou 2014:38). The ability to understand pragmatically inferred meanings has been discussed under sociolinguistic-

oriented study tradition which focuses on linguistic rules and forms (semantic formulae, realization of strategies) of the target language and social norms and conventions of the target language culture (Kasper 1996:145-6).⁵³ However, as Ifantidou (2014:21) pointed out, shades of the speaker's attitudes in a wide range of pragmatic phenomena including metaphors, irony, understatement, etc. cannot be dealt with by linguistic rules and conventions of forms. The present study argues that irony cannot be categorised in '*formulaic*' type of implicature, and above all its interpretation is not governed by any formulas or semantic rules.

Another controversial issue is that some previous studies (Bromberek-Dyzman and Ewert 2010, Yamanaka 2003) have treated a wide range of loosely related phenomena such as 'banter,' 'situational irony,' 'cynicism' as verbal irony without considering whether or not each phenomenon fits the distinctive features. Wilson (2004, 2006: 7, 2014) argues that disparate phenomena including hyperbole/overstatements, understatements, jocularity/banter, jokes and rhetorical questions have been treated as multiple forms and functions of irony⁵⁴. She points out that these phenomena have been considered as 'irony' under a very general sense involving 'some contrast between expectation and reality (Gibbs 2000/2007)'.⁵⁵ Although those phenomena do not fit the distinctive features, they have been treated and tested as a case of irony applying the operational definitions⁵⁶ in recent experimental literature on irony comprehension. According to Wilson (2014), those utterances in question are not inherently ironical: they do not show the distinctive features. For instance, Bromberek-Dyzman and Ewert

⁵³ Blum-Kulka (1982) suggested this as an idea of an interlanguage of speech act performance. However, this idea has been used as a description of 'pragmatic competence' in following studies (e.g. Koike 1989:279).

⁵⁴ Also see Carston and Wearing (2015) for discussion about distinctive features of hyperbolic use of language from metaphor and irony.

⁵⁵ See Wilson (2014) and Gibbs (2000/2007) for full discussion. See also Roberts and Kreuz (1994) for discussion of goal taxonomy and the relatedness of eight different forms of figurative language (hyperbole, idiom, indirect request, irony, understatement, metaphor, rhetorical questions, and simile). According to Roberts and Kreuz, while a unique constellation of communicative goals was found for each figure of speech, the results also provided supporting evidence for theoretical claims about the relatedness of certain figures. They suggested that understanding of functional and theoretical differences between the various kinds of figurative language could be broadened.

⁵⁶ See Gibbs and Leggitt (2000) for 'operational definitions' of some related phenomena.

(2010) have included 'banter' as verbal irony in their experiment. Below are the examples of banter (personal communication with Bromberek-Dyzman):

[banter#1]

Chris and Jake were competitors in an international student competition. The competition was pretty tough as the number of competitors from all over the world as well as the quality of the projects were high. To Jake's surprise and jubilation, he was announced the winner.

Jake: I did my best, but can't believe it happened. Is it for real?

Chris: *It is. You're not lucky at all!* (meaning "Congratulations!!!")

[banter#2]

The exam session, which was as usually pretty exhausting, is just over. Pauline and Joanna are discussing their holiday plans.

Pauline: I am so tired after all those exams. I think I will spend two weeks doing nothing. And then I will have to find some summer job. That's how it looks. And you?

Joanna: My dad just phoned me yesterday to congratulate me on the exam results. He said that they are so happy that I did so well. They want to celebrate this, and they're inviting me for an- all- paid vacation to the Caribbean! I think, I will go. What do you think?

Pauline: *You have a hard life!* (meaning "Wow! That's great! I envy you.")

While the second example [banter#2] can be taken as irony in some cases where sharing echoic elements (occasionally ironical), the first one [banter#1] seems to have no echoic elements. Considering the speaker's meaning in the examples [banter#1] ("Congratulations!!!), the speaker's attitude expressed by her utterance in both examples is clearly outside of the dissociative range such as mocking, scornful or contemptuous. In the literature, 'banter' or 'ironic jocularity' is described as teasing someone in a humorous way, which is often accompanied by 'laughter' (Gibbs 2000/2007). Recall that the distinctive features are the key to the underlying mechanisms for irony comprehension. Wilson (2014) argues that if 'a connection between jocularity and laughter' serves as a clue to potentially ironic intent, this indicates that irony and jocularity/banter may operate under different mechanisms since jocularity/banter does not necessarily fit the distinctive features of irony. Wilson (2014) expressed a warning about this broadened notion of irony, saying that 'important

differences in underlying mechanisms may give rise to significant differences in both developmental trajectory and pragmatic or social effects (p.14).’ It seems wrong to use a variety of loosely related phenomena as an example of irony in investigations of L2 irony comprehension. That would bring questionable results to our understanding of how L2 irony is understood.

3.5.2 Sociopragmatic approaches to interlanguage pragmatic competence

In the field of interlanguage pragmatics culture variation has been treated as a barrier to successful communication (Kasper and Rose 2002; Kasper and Schmidt 1996; Leech 1983; Scollon and Scollon 1995; Thomas 1983, 1995; White 1993, 1997; Wierzbicka 1991, 1992, 1997). However, the influence of culture has been discussed in a rather biased way. For instance, unsuccessful communication resulting from the influence of non-native speakers’ own culture, which distinguishes from the target language culture has been described as ‘failure.’ According to Thomas (1983), breakdown in the cross-cultural communication⁵⁷ is caused by ‘*pragmatic failure*,’ which was defined as inability of non-native speakers to understand what is meant by what is said. She explained that ‘*pragmatic failure*’ consists of ‘*pragmalinguistic failure*’ and ‘*socio-pragmatic failure*’. ‘*Pragmalinguistic failure*’ is mainly attributed to ‘*pragmatic transfer*’ that is inappropriate transfer of speech act strategies from one language to another language of utterances which are semantically and syntactically equivalent, but tend to convey a different pragmatic force in the other language (Thomas 1983:101). ‘*Pragmatic transfer*’ can be exemplified by cases such as that Japanese L2 learners tend to say ‘please’ in an inappropriate situation⁵⁸, say ‘sorry’ instead of ‘excuse me’, or to ask permission unnecessarily using auxiliary verbs ‘may’ or ‘can’. For instance, when a Japanese person asks to be excused to go to toilet, many of them use this expression;

⁵⁷ Thomas (1983) uses the term ‘cross-cultural’ as any communication between participants who do not share a common linguistic or cultural background.

⁵⁸ See White (1993) pp.196-200 for full descriptions.

‘May I go to toilets?’ attempting to be polite. This is the very case of negative pragmatic transfer. On the other hand, ‘*socio-pragmatic failure*’, which socio-pragmatic approach deals with, seems to be very much related to misinterpretation of indirect use of language. Thomas (1983:107) suggested that native speakers and non-native speakers operate differently formulated pragmatic principles for conversations. Different ‘pragmatic ground rules’ may evoke cross-cultural conflict of values. Thomas (1983) and Leech (1983) maintained that the hearer perceives the force of the utterance as something other than the speaker intended. This is because both the hearer relies on his own culture knowledge or beliefs, not knowing that the speaker might hold different perspective of the world. According to Thomas (1983), ‘*socio-pragmatic competence/failure*’ is the (in-) ability to apply their norms or social/cultural values to utterances, knowing how, when, and why to speak. When a speaker produces an utterance and a hearer interprets it, their linguistic behaviour is largely determined by their own social scale of values. Not only norms or social/cultural values but also the scale of those norms and values are different in different cultures and participants in cross-cultural communication make judgements according to their own scale. Thomas also suggested that assessments of relative importance of pragmatic principles might vary depending on culture. Even in the cases where they share same or similar values in different cultures, there might be difference in the degree of norm (i.e. how seriously a particular value is accepted in their culture: how polite is ‘polite?’), and the ranking might be different (i.e. which value outweighs the others). Sociopragmatic approaches have treated the influence of culture on pragmatic competence from such points of view.

The present study questions the widely accepted assumption that ‘difference’ or ‘deviation’ from native speakers’ language behaviour involving both producing and interpreting is ‘failure’ or ‘inability’ of non-native speakers. Spencer-Oatey (2008:6) suggested that ‘...cultural factors do not necessarily lead to communicative problems;

on the contrary, they can be a major source of comity and enrichment.’ House and Kasper (2000: 155) have strongly argued against the view that norms of native speakers are taken as all-important in the interlanguage pragmatic literature (cited in Ifantidou 2014:105 and adopted below):

Examination of the sociopragmatic functions of L2 learners’ codeswitching calls for a radical re-writing of the norms against which NNS’ pragmatic knowledge and behaviour should be matched. This norm should *not* be the monolingual NS because an L2 learner, by definition, is no monolingual speaker. L2 learners are bilingual or multilingual speakers whose interlanguage knowledge and skills are under construction. Consequently, the yardstick by which the unstable bilingual should be measured is the stable bilingual under comparable social, cultural and historical conditions of language use, and with comparable goals for interaction in different discourse domains.

(adopted from Ifantidou 2014:105)

This argument seems parallel with Cook’s notion of ‘*multicompetence*’ (cf. study of Bromberek-Dyzman and Ewert discussed in 3.4.2). Cook (1992:558) has also argued that ‘much SLA research is biased by adopting the monolingual as norm rather than multicompetent speaker.’ He (1992:563-564) suggested that L2 users and monolinguals might have different cognitive processes and metalinguistic awareness. It might be also possible that knowing another language (L2) facilitates codeswitching more readily from L1 to L2 (p.569). Different interpretations as outputs should not be treated as evidence for different mechanisms involved, and more importantly, that the underlying ability is faulty.

The view that ‘deviation’ from native speakers’ language behaviour is some sort of ‘failure’ seems to reflect on the experimental designs of previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011; Yamanaka 2003). These previous studies have taken it for granted that interpretations of native speakers would be always ‘correct’ and native speakers would uniformly interpret ironical utterances in the same way. The ability of L2 speakers to interpret ironical utterance was measured by the accuracy of choosing the ‘*correct*’ or ‘*expected*’ answer,

which was assumed to represent the interpretation of native speakers. Bouton (1988:185-186) asked native speakers open-end questions to indicate what the utterance in question may have meant. He used as 'correct' answer in the multiple-questions the interpretation that the 'dominant' native speakers had provided. The options that Bouton (1988) had originally set as 'correct' have been used in following experiments (Bouton 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Lee 2002; Manowong 2011). The question is, however, to what extent the 'correct' answer represents native speaker's interpretation. Taking the example of irony [good friend], for instance, the option (a) '*Peter is not acting the way a good friend should*' was set as the 'correct' answer but it was based on the interpretation from 73% but not 100% of native speakers. This means that 'correct' answer was not a definite interpretation of the utterance in question. In fact, the percentage of native speakers of American English who had chosen option (a) was 86% in Bouton's first experiment (1988) and 80% (mean score 12.0 out of 15) in Lee's study (2002). In the study of Yamanaka (2003), no complete consistency in native speaker's choice of answer was found. There may be cases where people from the same linguistic and cultural background also interpret the same utterance differently. This '*native norm model*' applied into research in interlanguage pragmatics has been questioned (Dewaele 2007, Ren 2013). For example, Dewaele (2007) suggested that non-native speakers' disagreement with the NS norm does not necessarily indicate 'pragmatic failure.' He also questioned which sets of norm we could take as the norm of native speakers. He (2007:167) stated that 'different communities of practice have different sets of unwritten rules concerning appropriate behaviour. Against what set of rules should we compare the data from our L2 learners and L2 users?' As Ren (2013:720) pointed out, the ability of non-native speakers should not be measured by maximal convergence to native speakers. This illusion of 'the NS norm' that interpretations of non-native speakers would be always 'correct' seem to make the

suggestions of previous experimental studies questionable. Relevance theory (Sperber and Wilson 1995) claimed that assumptions or representations of the world dramatically vary by individuals, and differences between individuals result in not only different interpretations but also different memory of the basic physical facts. It cannot be expected that successful communication is always guaranteed in conversations among native speakers.

Lee's '*particularised-generalised*' categorisation is based on the idea of Grice (1975) that '*particularized implicatures*' but not '*generalized implicatures*' are very sensitive to the non-linguistic and contextual cues which the implicature was embedded in (2002:10). According to Lee, 'non-linguistic cues' were cues such as the speaker's tone of voice, facial expression, body language, gestures, or information from the situation of the scene. Based on the comments of Korean participants from the post-interview, Lee has suggested that the ability to recognise non-linguistic cues was also culture-specific. On the other hand, Taguchi's investigation (2002) has found that different inferential strategies were identified across proficiency level. Lower proficiency group showed a tendency to pick up a key word in the utterance and associate it with meaning ('key word inferencing'), or referring to life experience and global background knowledge ('background knowledge/experience'). Taguchi referred to Ross (1977) in that L2 learners of lower proficiency especially in listening skills tend to rely on 'key word inferencing.' A word of caution here: 'the key word' does not mean the word that potentially guides to the speaker's implied meaning. It is rather the last word that L2 learners processed during the flow of linguistic inputs. This disposition to 'key word inferencing' was also evidenced in Taguchi's other study (2005) in which the ability of Japanese L2 learners to understand the implied meaning in 'conventionalized implicature' was assessed. Taguchi set three types of distractor out of a four-choice question as either '*opposite to the implied meaning,*' '*words from last-*

heard utterance,’ or ‘*related to other part of dialogue.*’ For instance, in between two people conversation, A asked B about the movie that B had watched. B answered uttering “*I was glad when it was over.*” Taguchi (2005:550) created four choices as follows:

- B didn’t enjoy the movie. [*correct choice*]
- B thought the movie was good. [*distractor: opposite to the implied meaning*]
- B liked the end of the movie. [*distractor: words from last-heard utterance*]
- B thinks Ben should have watched the movie. [*distractor: related to other part of dialogue*]

Post-hoc error data analysis revealed that Japanese L2 learners who had chosen a wrong interpretation were most attracted to the distractor of ‘*words from last-heard utterance.*’ This finding indicated that Japanese L2 learners became confused by ‘other irrelevant and misleading cues, particularly by the words that remain strongest in their short-term memory (p.555).’ It was revealed that as language proficiency had developed, Japanese L2 learners seemed to rely more on different strategies such as ‘paralinguistic cues’, ‘adjacency rules’, ‘logical reasoning.’ If Taguchi’s suggestions (2002, 2005) are right, it seems more plausible to suggest that language proficiency rather than sociocultural knowledge specific to the target language culture potentially may affect non-native speakers’ inferential processes on irony interpretations.

3.6 Summary

This chapter surveyed and reviewed how previous studies have treated irony and how they have investigated the ability of L2 speakers to interpret irony. Among various phenomena of indirect use of language, irony has been reported as the most difficult type for L2 speakers to understand. Most of the previous studies have taken Grice’s account of irony, and irony has been regarded as involving the communication of the opposite of what the speaker has literally expressed. Within relevance-theoretic account of irony the present study has argued that issues with Grice’s inferential model of communication in general and his approach to irony in particular have been reflected in

problems with those previous studies. The ability of non-native speakers to interpret ironical utterances has been investigated by measuring whether speakers select the opposite of what was said as a communicated meaning. None of the previous studies considered the point of irony as the speaker's intent to express her dissociative attitude towards an attributed thought. The question of how non-native speakers understand the speaker's attitude has been ignored. The present study also argued that ironic interpretation is not governed by rules or conventions. Explicit instruction focusing on a semantic reversal formula did not help L2 speakers to understand the communicative intention of the ironic speaker. Based on the illusion of native speakers as '*norm providers*,' previous experimental investigations of the ability of L2 speakers to interpret ironical utterances have been conducted to see whether L2 speakers choose the 'correct' answer. The present study pointed out that the nature of L2 irony comprehension has been dealt with from sociolinguistic and sociopragmatic viewpoints with discussions about the culture-dependent differences in contextualisation for interpretations and their reflection in particular linguistic forms and pragmatic strategies. All these discussions were descriptive, and previous studies did not explain how cultural variations affect the way in which non-native speakers arrive at different interpretations.

Research on L2 understanding pragmatically inferred meanings in general and irony in particular remains within the theoretical framework of Grice's approach to communication. The present study suggests that a more fully developed theory is needed. It assumes that a relevance-theoretic account of irony (the echoic account) provides better foundations for investigations. The next chapter reconsiders possible factors that may affect inferential processes of irony interpretation from a cognitive perspective.

CHAPTER 4. TOWARDS A NEW APPROACH

4.1 Overview

This chapter proposes a way forward in developing further understanding of factors affecting the comprehension of potentially ironic utterances in a second language. The preceding chapter discussed problems with previous studies (Bouton 1988, 1990, 1992b, 1994b, 1999; Lee 2002; Manowong 2011; Shively 2008; Yamanaka 2003) arguing that theoretical and related methodological issues cast some doubt on their results and identifying a significant gap in understanding what gives rise to differences in ironic interpretation between first language and second language speakers.

Explanations have tended to refer to ‘cultural differences’ adopting a socio-pragmatic perspective, but not to say much about what those differences were and how different culture affects the interpretation processes. The fundamental basis of socio-pragmatic approaches is the desire to assert the importance of one’s own culture when its difference to the target language culture is overseen in cross-cultural communication. However, such approaches often result in mere descriptions of difference between two cultures and do not provide systematic explanations.

It does seem natural to assume that cultural differences must play a role. However, looking at individual cases does not tell us much about it and definitely not explain how cultural differences would play a role in the interpretation processes of ironical utterance. There has not been much work on other possible explanations. Only some previous studies (Lee 2002; Manowong 2011; Shively et al. 2008 Yamanaka 2003) suggested two other factors: differences in the recognition of prosodic cues, and differences with regard to the (more limited) capacity of working memory, but not fully explored further. This chapter considers these possible explanations from the perspective of the relevance-theoretic approach adopted here and prepares the way for

experimental work reported in chapter 5, which begins to explore one of these explanations, differences in the recognition of prosodic cues.

Section 4.2 considers culture-dependent differences, which previous experimental studies saw as the most important factor affecting interpretations. It argues that discussion of culture-dependent differences so far has been incomplete and has not provided a systematic explanation of how these differences affect interpretations. The discussion here suggests that a relevance-theoretic approach might explain how cultural differences affect the construction and access of contextual assumptions in ways which lead to interpretations different from those of native speakers (to varying degrees for different individuals, of course).

Section 4.3 considers the contribution of prosodic cues in indicating the speaker's communicative intention. This has been mentioned in previous studies but never fully explored. This section discusses findings of studies of the recognition of vocally expressed emotion in foreign language and considers possible universals and cultural differences in the recognition of prosodic cues to the speaker's meaning in ironic utterances.

Section 4.4 considers the possibility that processing linguistic inputs makes greater cognitive demands on second language speakers and this is a factor leads to different interpretations. It considers possible relationships between the automatization of processing in L2 and the capacity of working memory.

Based on a survey and review of studies that have considered cognitive aspects in work on comprehension in a second language, the chapter concludes by suggesting some new possible directions for empirical work on second language interpretation in general and on the interpretation of potentially ironic utterances in particular. Chapter 5 reports empirical work which aims to take some first steps in one of these directions by

investigating the role of prosodic cues in guiding the interpretations of Japanese speakers of English as a second language.

4.2 A cognitive perspective on cultural variation

This section considers how the relevance-theoretic approach adopted here might account for how aspects of a specific culture contribute to and affect human communicative behaviour. The nature of L2 irony comprehension has been described in discussing the culture-dependent differences in contextualisation for interpretations and their reflection in inferential strategies (Bouton 1988; Bromberek-Dyzman, Rataj, and Dylak 2010; Lee 2002; Manowong 2011; Yamanaka 2003). This section aims to suggest a different way of looking at ‘culture’ by complementing the socio-pragmatic approach with a cognitive one. It first addresses a question of what ground the speaker and the hearer are expected to share, and discusses the issues associated with the notion of ‘mutual knowledge’. This discussion considers how the notion of ‘mutual knowledge’ has been rejected in favour of a notion of ‘mutual manifestness within the relevance-theoretic inferential model of communication (Smith 1982; Sperber and Wilson 1995). The idea of ‘*socio-pragmatic competence/failure*’ (Thomas 1983), which seems to underlie the socio-pragmatic approach to successful cross-cultural communication considers native speakers as ‘norm providers’ and ‘difference’ or ‘deviation’ from native speakers’ language behaviour as ‘failure’ or ‘inability’ of non-native speakers. As a reaction to this idea, this study also considers a question of the extent to which it is necessary to alter one’s cultural representations for successful communication. It suggests a systematic explanation about how culture influences the interpretation processes of ironical utterances within the framework of relevance-theoretic account.

4.2.1 Considering ‘culture’

Culture is notoriously difficult to define (Spencer-Oatey 2008: 3). Spencer-Oatey explained that numerous research projects have provided a definition of 'culture'. Choosing and applying one definition from them to investigations is not easily done. However, it is necessary to clarify which stand this study takes with regard to 'culture' before moving on to the detailed discussion about the influence of culture in cross-cultural communication.

The central argument of previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a) was that cultural diversity (i.e. culture difference and culture variations) affects mutual understanding of the context of the utterance between the speaker and the hearer. Those taking the socio-pragmatic approach suggested that native speakers and non-native speakers have to understand each other and they have to share the same perceptions about the world in general and values and conventions in particular (Bouton 1990, 1992a). However, a question of how much interlocutors in conversation can understand each other and what kinds of cultural knowledge they need to share is not clearly identified.

The idea of 'mutual knowledge' suggested that for successful communication or more precisely for construction of the correct interpretation ('correct' as in the implied meaning that the speaker intended), the context intended by the speaker and the contextual information used for interpretation of a given utterance must be not only known by each party of communication but also mutually known (i.e. each knows that the other knows). Sperber and Wilson (1995) argued that 'mutual knowledge' is a part of the philosophy of language that does not function in reality: it is an empirically inadequate notion, and 'shared information' is conceptually vague. Relevance theoretic accounts of communication and cognition explain the problem of 'mutual knowledge,' to put it briefly, as that it is impossible to establish 'mutual knowledge' without going through infinitely regressing stages ('infinite regress'): the speaker knows that the

hearer knows that the speaker knows that the hearer knows that the speaker knows that the hearer, and so on. For more detailed discussion, see Carston 2002; Clark 2013; Smith 1982; Sperber and Wilson 1995. Sperber and Wilson (1995) rejected the notion of ‘mutual knowledge’ and replace it with the weaker but more realistic notion of ‘manifestness’ as a solution for the problem of ‘mutual knowledge’ which gives better explanation about communication. ‘Manifestness’ and ‘cognitive environment’ are defined as follows:

Manifestness

An assumption is manifest to an individual at a given time if and only if he is capable at the time of representing it mentally and accepting its representation as true or probably true.

Cognitive environment

The cognitive environment of an individual is a set of assumptions that are manifest to him.⁵⁹

(Clark 2013: 115; based on Sperber and Wilson 1995: 39)

According to this view, an assumption becomes manifest to an individual if that individual is capable of mentally representing it and accepting that representation as true. A crucial difference between ‘knowledge or knowing’ and ‘manifestness or manifest assumptions’ is that in order for you to know something, it has to be true whereas assumptions are not necessarily true. In other words, you cannot know something if it is false. Consider the following sentence:

(14) The French president, Mr Hollande, has never won the Wimbledon tennis tournament.

It is unlikely that you have entertained this before reading it here but it becomes manifest to you after you encounter it. The point is that to say that you ‘*know*’ it, you need to know that the simple proposition expressed by this sentence is true. What if the next sentence is presented to you after (14)?

⁵⁹ Clark uses the word ‘assumption’ instead of ‘fact’, which had been used in Sperber and Wilson’s original definitions. Clark’s reason for this is that he assumes that a ‘fact’ is a ‘true proposition’ which is problematic here. In fact, Sperber and Wilson agree with Clark suggesting that a manifest assumption may turn out to be false. See Clark (2013: 368 notes 11 to Chapter 3).

(15) The French president, Mr Hollande, has won the Wimbledon tennis tournament.

Since (14) and (15) contradict each other, they cannot both be true, and according to the definition of manifestness, they cannot therefore both be manifest to you at the same time. If you were told (14) by a reliable source, and have some independent evidence of your own to back it up, then you are most unlikely to change your mind on hearing (15) unless the speaker can provide convincing evidence that what she is telling you is “true or probably true”. And in that case, (14) will be manifest to you and (15) will not.

Sperber and Wilson (1995: 39) pointed out that an individual’s total cognitive environment consists of not only all the assumptions that he is aware of, but also those that he is capable of becoming aware of in his physical environment. Given the definition of ‘manifestness,’ communication is perfectly explained: communication depends on what is or can become mutually manifest rather than presupposing what is fully shared. Sperber and Wilson (1995: 45) suggested that the cognitive environment of a communicator and an addressee cannot be assumed to be the same. Assumptions available to the communicator are not necessarily the same as those to the addressee, and the degree of ability to represent assumptions and use them in inferential processing differ between two parties. This indicates that the responsibility for avoiding misunderstanding is left on the speaker’s abilities to decide which ostensive stimulus to use and to evaluate which contextual information is available to the hearer based on their mutual cognitive environment. All the hearer is required to do is use a given ostensive stimulus and contextual information most accessible for an inference. It should be mentioned that relevance theorists, replacing the notion of ‘mutual knowledge’ by ‘manifestness,’ do *not* attempt to suggest that there is no such a thing as ‘shared information.’ They regard shared information as necessary for communication, and the communication process itself gives rise to shared information.

All this indicates that if it is on a right track to say that ‘mutual knowledge’ between non-native speakers and native speakers is not a prerequisite for successful intercultural communication, then, the influence of culture needs to be explained from a different perspective.

As a psychoanalyst and an anthropologist, Hall (1976) described culture as a human ‘*medium*’ suggesting ‘there is not one aspect of human life that is not touched and altered by culture (p.16).’ He suggested that culture influences human behaviour. Thus, culture can be described as a social group whose members share (or presume to share) similar representations (1976:16).

Spencer-Oatey (2000/2008) and Žegarac (2008) suggested a slightly different view of ‘culture’ to this. According to Spencer-Oatey (2000/2008:4) and Žegarac (2008:52), members of the same cultural group or a population subgroup share cultural representations, and the shared cultural representations within the group are called ‘regularities’. Such ‘regularities’ are related to a wide range of elements including ‘basic assumptions,’ ‘fundamental values,’ ‘deep-seated orientations to life and beliefs,’ ‘attitudes,’ ‘behavioural rituals, conventions and routines,’ etc. In this sense, ‘*intra-*cultural communication could be characterised as communication between participants who share most cultural representations, and *inter-*cultural communication as communication between participants who share few cultural representations (Žegarac 2007: 39).’ Sperber and Hirschfeld (2004) have spoken of ‘culture’ as follows:

‘A cultural group is held together by a constant flow of information, most of which is about local transient circumstances and not transmitted much beyond them. Some information, being of more general relevance, is repeatedly transmitted in an explicit or implicit manner and can end up being shared by many or even most members of the group. ‘Culture’ refers to this widely distributed information, its representation in people’s minds, and its expressions in their behaviors and interactions.

(Sperber and Hirschfeld 2004: 40)

This suggests that culture crucially influences not only the way humans represent and view the world (i.e. a representation) but also the way they attribute thoughts and behaviour to other people (i.e. ‘metarepresentation’ = representation of a representation).

Spencer-Oatey (2008) suggested that ‘culture’ is manifested through co-occurring regularities within the social group (2008:4) and drew our attentions to the key issue: ‘cultural regularities are not manifested in all members of a given cultural group or to the same degree of strength in all members (2008:4).’ She suggested that cultural representations such as norms or beliefs that members of the same group are assumed to share are the central tendencies of the group as what she described as ‘*family resemblances*.’ There are cases where representations and especially experiences that a single individual in the group may differ to the group average. In addition, she (2008: 6) pointed out that the influence of cultural representations on human behaviour and attributions to others does not mean that it is the only factor that affects their behaviour, nor that cultural regularities determine their behaviour. Žegarac (2007, 2008), using an analogy between cultures and epidemics, suggested that the existence of shared cultural representations or cultural regularities does not necessarily mean that all the members of a given cultural group hold exactly the same representations. Even in cases where members hold the same representation, the degree of its importance may not always be equal among individual members. This aspect of culture becomes very important to the following discussion. Sperber and Wilson (1995: 16) discussed the existence of individual differences within the same cultural/social group. They point out that aspects of human cognition such as attention, perception, or memory vary from one individual to another. They say:

While it is clear that members of the same linguistic community converge on the same language, and they converge on the same inferential abilities, the same is not true of their assumptions about the world. True, all humans are

constrained by their species-specific cognitive abilities in developing their representation of the world, and all the members of the same cultural group share a number of experiences, teachings and views. However, beyond this common framework, individuals tend to be highly idiosyncratic. Differences in life history necessarily lead to differences in memorised information.

(Sperber and Wilson 1986/1995: 16)

Even two people from the same cultural group with a similar background (e.g. living in the same town, having education from the same schools and institutions, having similar professions, etc.) may perceive the same situation differently since it is not always the case that each of them pays the same amount or kind of attention to the same objects or events. In addition, even in the case where two people pay attention to the same thing and share a similar perception, what and how much they remember will not be exactly the same. What an individual picks up from the flow of information is an individual matter. A range of information is available from cognitive sources for hypothesis construction, but it cannot be assumed that the resulting hypothesis is the same among individuals. It is not only members of different cultural groups who may vary with regard to the assumptions they can access.

Spencer-Oatey (2008) claimed that while it is undoubtedly correct that individual behaviour is moulded under the influence of representations of the central dispositions of the group as a whole (e.g. country-level, race-level, etc.), group-level standards should not be applied directly to individuals. This leads to another question: for successful cross-cultural social interaction, to what extent it is necessary for non-native speakers to assimilate culturally into the target language culture. For development of the ability to interpret a given utterance in the same way as native speakers, do non-native speakers have to let go of their own cultural values? Whose knowledge about the world should be taken as representing the key assumptions for interpretation? And to what extent is it possible to alter one's cultural representations and practices understood as values or norms shaped in an individual's mind? Take my own example. After living in London for more than 10 years I often find it still difficult to accept straightaway the

sign that reads 'good service' on tube stations when the tube is running without severe delay or serious problems. The London underground service is notorious for its unreliability. From my representation of [PUBLIC TRANSPORT] that the basics of any public transport is punctuality and safety, punctuality is expected as how a public transport service should be: it is not worth mentioning or it is not worth describing with the adjective 'good.' Having numerous bad experiences caused by the unreliable service of London underground, I've equipped myself to afford some extra time on daily basis. However, it does not mean that my representation about public transport has been altered. To the contrary, it remains intact being stored in mental schema. Particular knowledge about the target language culture can be obtained through one's experiences, and such knowledge is probably added to one's cultural knowledge as new information without altering the core of it. One's cultural representations and practice may not be substance that people can alter like codeswitching.⁶⁰

This discussion here suggests that it is possible that people from the same culture or sub-cultural group also have different assumptions. Along the lines that cultural differences are mediated by the minds of individuals and that it is possible to identify ways in which constructing different assumptions might happen or even that having a similar assumption, there might be still difference in degree, some assumptions or behaviours are quite individual and idiosyncratic while some are clearly affected by members of particular cultural group. Culture difference is one of the important factors that contributes to non-native speakers' interpretation processes but this study suggests that focusing only on the cultural side would give no more scope for research on the comprehension of potentially ironic utterances in a second language than what has been

⁶⁰ Link et al. (2009) have discussed L2 learners' inhibition of L1 during immersing in L2 contexts. Their discussion was not focused on cultural representations but linguistic behaviour. See Link, Kroll and Sunderman (2009) for the details.

suggested so far. This different cultural-dependent factor should be looked into by complementing socio-pragmatic approaches with a cognitive one.

4.2.2 The importance of culture in context selection

Previous studies (Bouton 1988,1990, 1992a, 1992b, 1994a, 1994b, 1999; Lee 2002; Manowong 2011; Yamanaka 2004) have discussed the culture-dependent differences between native speakers and L2 speakers with reference to notions of context. They have described how they assume L2 speakers' own cultural knowledge was represented and used in intercultural communication but have not explained how different cultural representations in the context bring about different interpretations.

Clark (2013:7) points out that an adequate theory should be able to explain not only how people understand each other's intentional communication but should also be able to explain why communication sometimes fails. Grice's inferential model tells us that the intended interpretation is inferred by a process of making and evaluating hypotheses about the speaker's implied meaning in the light of his Cooperative Principle and the maxims which constitute it. Any hypothesis that does not satisfy the expectations represented by the maxims can be eliminated. Grice, however, did not say much about how the hearer forms hypotheses about the speaker's intended meaning. Neither did he mention the possibility that individuals might construct different hypotheses which can lead to misunderstandings. This may be partly why some studies (Divine 1982; Keenan 1976) suggested that Grice's approach is not universal, and this may be why Bouton (1992b: 40) criticised it as English-oriented. The relevance-theoretic approach to communication claims to be able to explain why communication sometimes fails. Wilson (1994) suggests that 'difficulty of interpretation arises precisely because it is not clear what contextual assumptions we were intended to use' (Wilson 1994: 41).' The hearer's job in recognising the intended meaning is to choose the assumptions that will

lead to the intended interpretation.⁶¹ This can be applied to the case of misunderstandings arising in intercultural communication and it also provides an explanation of how culture-dependent differences in contextualisation can affect inferential processes.

‘Context’ has often been understood in a rather simple and narrow way as consisting of features of the preceding linguistic contents and/or the physical environment in which the utterance takes place. Relevance theory (Sperber and Wilson 1995; Wilson 1994) assumes a dynamic and much broader sense to the nature of ‘context.’ It suggests that context is also the set of assumptions (‘contextual assumptions’) brought to bear in arriving at an interpretation. The set of assumptions may be drawn from new information from immediately preceding texts or discourse, observation of the speaker and the state of affairs in the immediate environment. But it can be also drawn from a subset of the hearer’s beliefs and assumptions about the world including personal memories of particular things (i.e. events, places, or people), general cultural assumptions, religious beliefs, scientific knowledge, assumptions about the speaker’s emotional state and any shared or idiosyncratic information that the hearer has access to at the time of conversation (Blakemore 1992:18; Clark 2013:224-227; Wilson 1994:41). In order to ‘explain’ but not ‘describe’ the influence of culture, understanding the notion of contextual assumptions is crucial for two reasons at least. First, contextual assumptions that individuals create in the process of interpretation may vary depending on their cultural background since many assumptions are drawn from cultural representations. As discussed above, although these mental representations vary at an individual level, it is also true that members of the same cultural group have a great deal

⁶¹ Wilson (1994:47) warned that there is no guarantee that the interpretation that satisfies the hearer’s expectation of relevance will be the intended one since a fallible process of hypothesis formation and evaluation is involved in interpretation processes. To claim that a choice is rationally justified is not the same as claiming that it is invariably correct. See Wilson (1994) for the details.

in common. Hence, it is highly likely that members of the same cultural group construct and use similar contextual assumptions. Second, in order to arrive at an interpretation of an utterance, the hearer needs to select an appropriate set of contextual assumptions, which is the set of assumptions that are close enough to the one the speaker assumed the hearer can and will access for interpretation. Thus, successful communication depends on the selection of the appropriate set of assumptions. It is not necessarily that the set of assumptions that the hearer actually accesses and uses are those that the speaker intended (or that that speaker has a precise set of assumptions in mind). The speaker may misjudge the hearer's ability to select the set of assumptions needed to access her intended meaning, or the hearer may not select and use the same assumptions as those the speaker expects the hearer to bring to bear. Misunderstandings occur in such cases. Thus, different cultural representations may affect the construction and use of contextual assumptions, and most importantly the influence of culture or cultural knowledge can be found in selecting the set of assumptions. Speakers and hearers from different cultural or social groups may not share the same or similar schemata of beliefs and assumptions are rooted in culturally defined social, moral or aesthetic norms, or general hopes or aspirations. '*mismatches*' or '*gaps*' between the set of assumptions envisaged by the speaker and the one selected by the hearer may be found more often in intercultural communication.

While stressing the importance of culture, how culture affect the interpretation of non-native speakers has not fully been explained in previous studies (Bouton 1988,1990, 1992a, 1992b, 1994a, 1994b, 1999; Lee 2002; Manowong 2011; Yamanaka 2004). This section, considering culture from a more cognitive perspective suggests systematic explanation for it within relevance-theoretic account. If we are on the right track with regard to cultural influence on the interpretation processes, it is possible to consider the other factor, i.e. possible difference in recognition of prosodic cues (of

course, there is a possibility that cultural factors might influence how prosodic cues are recognised).

4.3 Recognition of paralinguistic cues in foreign language

This section surveys studies that focused on non-native speakers' recognition and production of paralinguistic cues in a second language. First, it considers studies that investigated how vocally expressed emotions are recognised in foreign languages in the discussion of universal principles and culture-specific aspects. Then, it turns its attention to studies that highlight culture-specific attentional biases in recognising emotional expressions which are different for Japanese and American speakers. Lastly, it focuses on studies that explored similarities and differences in the use of English intonation between native speakers and second language speakers.

4.3.1 Universality and cultural relativity in the recognition of vocally expressed emotion in foreign languages

Elfenbein and Ambady (2002a) conducted a meta-analysis to examine evidence for the universality and cultural relativity of emotional expression through non-verbal behaviour. They analysed 97 separate studies, which included 87 articles that had empirically examined how 'basic' emotions (i.e. anger, disgust, fear, happiness, sadness, surprise, contempt) or subsets of these were vocally recognised cross-culturally. The total number of participants participating in these 97 studies added up to more than 22,148 participants including 42 different nations, 33 different ethnic groups, and 2 regional groups. The studies had focused on different non-verbal channels of emotional expression such as facial expression, vocal expression, body language (body movement), silent video and combinations of these. Elfenbein and Ambady (2002) claimed that the evidence supported 'cross-cultural accuracy', i.e. that emotions could be recognised accurately across cultural boundaries. At the same time, they have also found evidence for the 'in-group advantage' in emotion recognition whereby 'emotions

are recognised more accurately when they are both expressed and perceived by members of the same national, ethnic, or regional group (Elfenbein and Ambady 2002a:216).’ Furthermore, Elfenbein and Ambady (2002a:219) suggested that greater cultural exposure (contact or/and familiarity) might moderate the degree of in-group advantage. Moreover, this meta-analysis (Elfenbein and Ambady 2002a:219-20; Paulmann and Uskul 2014) suggested that accuracy in recognising emotion varied according to non-verbal channel of expression: overall emotions were recognised less through the ‘dynamic channels (tone of voice or video)’ than through ‘static channels (photograph of face or body).

While less rich compared to research on facial emotional recognition, there is psychology literature on the universality and cultural variability of the recognition of vocally expressed emotional expression (Bachorowski 1999; Elfenbein and Ambady 2002a, 2003a, 2003b; Paulmann and Uskul 2014; Pell, Monetta, Paulmann, and Kotz 2009; Scherer 1986, 1997; Scherer and Wallbott 1994; Scherer, Banse and Wallbott 2001; Scherer, Banse, Wallbott, and Goldbeck 1991; Thompson and Balkwill 2006). Regardless of the experimental design adopted, these studies provided evidence supporting ‘dialect theory’ (Tomkins and McCarter 1964) which claims that ‘just as dialects of a language (e.g., American vs. British English) can differ in accent, grammar, and vocabulary, the universal language of emotion may also have dialects that differ subtly from each other (Elfenbein and Ambady 2003a: 162; Elfenbein, Beaupré, Lévesque, and Hess 2007).’⁶² These studies assume that a speaker intends to express her emotion or attitudes by varying prosodic features (i.e. pitch, loudness, voice quality, and/or speed) and a hearer makes inferences about the others’ emotion or attitudes by paying attention to such prosodic attributes (Paulmann and Uskul 2014:237). The results

⁶² See Elfenbein and Ambady (2003a) for details of ‘dialect theory’ in comparison with ‘neurocultural theory’ (Ekman et al. 1987) and ‘display rules and decoding rules’ (Matsumoto 1989, 1992).

of these studies showed that participants seemed to rely on universal principles or “inference rules” for vocal emotion recognition, which are innately shared across human cultures (Pell, Monetta, Paulmann and Kotz, 2009:519). At the same time, they also found evidence for an in-group advantage (Elfenbein and Ambady 2002a, 2002b, 2003a, 2003b; Paulmann and Uskul 2014; Pell, Monetta, Paulmann and Kotz, 2009; Scherer et al., 2001; Scherer and Wallbott 1994; Thompson and Balkwill, 2006). As Elfenbein and Ambady described, an in-group advantage was evident in that ‘perceivers’ emotion judgments are more accurate with culturally matched than culturally mismatched materials (2003a: 162).’ For instance, Scherer et al. (2001) adopted “‘unbalanced’” experimental designs or what Paulmann and Uskul (2014:232) called “one against all” experimental design in which participants from different cultural groups were asked to identify emotions expressed by a member of a single cultural group. Scherer et al. (2001) investigated the accuracy of emotion recognition across nine countries in Europe, the United States, and Asia. They created ‘meaningless multilanguage utterances (2001:79)’ where sentences were artificially constructed by arranging meaningless syllables from each of six European languages (i.e. German, English, French, Italian, Spanish and Danish) into seven-syllable sequences. Professional German actors read these ‘meaningless multilanguage utterances’ portraying four different emotional states (i.e. anger, sadness, fear, joy) and a neutral state. They (2001:85) reported that overall these basic emotions were recognised 66% of the time across all countries. The results also showed that accuracy of participants from Germany was the best (74%) among nine countries. Although an in-group advantage was indicated, patterns of confusion did not vary significantly depending on the country of participants. Pell et al (2009), on the other hand, adopted an “all against one” approach whereby participants from a single cultural group were asked to identify emotions expressed by members of different cultural groups (Paulmann and Uskul

2014:232). Pell et.al (2009) tested monolingual speakers of Argentine Spanish to investigate their recognition of emotions vocally expressed in their own language (Spanish) and in three foreign languages (English, German, and Arabic). Their stimuli included five basic emotional states (anger, sadness, fear, joy, disgust) vocally expressed in pseudo-utterances that contained no semantic information about emotions. They reported that vocal emotion recognition of Argentine participants was not affected depending on language spoken and they could accurately infer the speaker's emotional state vocally expressed not only in their native language but also in foreign languages. They (2009:118) also found an in-group advantage tendency: 'there was a small but robust benefit of processing vocal cues to emotion when the participants listened to native Argentine speakers rather than to speakers of three foreign languages.' Paulmann and Uskul (2014) adopted an "all against all (fully-crossed design)" approach in which participants from different cultural groups i.e. Chinese background and British background, were asked to identify emotions expressed by native speakers of Chinese and English. In their study both universal and culture-specific principles in vocal emotion recognition of six different emotional states (anger, disgust, fear, happy, sad, and surprise) and a neutral state were evidenced. While overall emotions were recognised successfully across two cultures, participants recognised emotions more accurately when emotions were expressed by a member of their own culture rather than by a member of the other culture. Their study showed no clear evidence that 'acoustic cues' (which presumably guided participants towards a particular emotion) were recognised differently by the two different cultural groups. Paulmann and Uskul (2014:239) suggested the conclusion that mechanisms for recognising vocally expressed emotion seemed similar across cultures.

While accounting for both universality and cultural variability focusing on cross-cultural accuracy of vocal emotion recognition, these studies also attempted to look into

factors that moderate the size of the in-group advantage. Given that these studies used pseudo-sentences in which sentences were artificially constructed without semantic information, universal principles seemed to be applied regardless of linguistic ability (Pell, Monetta, Paulmann and Kotz, 2009). On the other hand, several potential moderators were suggested, including language or linguistic similarity (Scherer et al., 2001; Pell, Paulmann, Dora, Alasseri, and Kotz 2009; Thompson and Balkwill 2006), stimulus duration (Beier and Zautra 1972; Paulmann and Uskul 2014), gender of the speaker (Pell, Paulmann, Dora, Alasseri, and Kotz 2009), amount of exposure or experience of the listener (Elfenbein and Ambady 2003b; Elfenbein et al., 2007; Scherer et al. 2001; Thompson and Balkwill 2006), and learning (Gilbert 1980; Neufeld and Schneiderman 1980, cited in Wennerstrom 1994:40). For instance, it was revealed that participants who had had more exposure to other cultures could recognise vocally expressed emotions more accurately (Elfenbein et al., 2007; Paulmann and Uskul 2014). Some authors (Gilbert 1980; Neufeld and Schneiderman 1980, cited in Wennerstrom 1994:40) suggested that exposure to native speakers' use of intonation and/or repetition exercises at early stages of learning had helped second language learners to work out auditory discrimination and '*subvocalisation*' (e.g. mimicking intonation contours). However, these studies showed mixed results, and replications or further investigation have been suggested to provide firmer evidence about these moderators. An implication of these studies is that, although universal principles for the recognition of vocally expressed emotion certainly exist, (mis/) application or transfer of culture-specific emotionally relevant rules (e.g. to hide the feeling of disgust) from the native culture cannot be overlooked (see Elfenbein and Ambady 2002a for over view; Paulmann Uskul 2014; Pell et.al 2009; Scherer et al., 2001).

Pell et al (2009:110) suggested that research on recognition of vocally expressed emotion should explore the potential of cultural variation not only in how prosodic cues

(i.e. tone of voice) that are assumed to signal the speaker's emotions, but also in the interaction of these cues with context. Wennerstrom (1994) referring to Morley (1991:493) put extra stress on the important relationship between the context and suprasegmental information such as stress, rhythm, and intonation (cited Wennerstrom 1994:400). She suggested that functions of intonation in L2 speech should not be investigated in isolation from the context.

The echoic account claims that the point of irony is to implicitly express the speaker's dissociative attitude towards an attributed thought. If such 'inferential rules' or even 'in-group advantage tendency' are universal as suggested, it is worth exploring whether the role that prosodic cues play in guiding hearers to the interpretation processes of utterances is also universal.

4.3.2 Culture-specific attentional bias towards emotional vocal tone

Studies by Ishii, Reyes and Kitayama (2003) and Kitayama and Ishii (2002) looked closely at the influence of cultural variation. These studies (Ishii, Reyes, and Kitayama 2003; Kitayama and Ishii 2002) investigated whether one's culture predicts differences in processing systems involving comprehension of emotional words.⁶³ These two studies focused on cultural variation between American and Japanese participants in spontaneous attention to different aspects of linguistic inputs, namely verbal content or vocal tone. Hall (1976: chapter 7) proposed that thoughts attributed to others are unknowable in principle unless they are explicitly expressed verbally in some Western cultures and languages such as North America/English. On the other hand, in some East Asian cultures and languages, such as Japanese, attributed thoughts are knowable in principle once enough contexts are specified. Hall called the former a '*low-context*

⁶³ Ishii, Reyes and Kitayama (2003) and Kitayama and Ishii (2002) used 'speech' or 'utterance' instead of 'words.' However, the test material used in these studies included only a word of emotional state (e.g. 'grateful,' 'tasteful') independently of any context. This is not a statement and it has no truth conditions, so it should not be regarded as speech or an utterance. Instead, it should be considered as a 'word' rather than 'speech' or an 'utterance.'

culture' and the latter a '*high-context culture*'. Hall (1976) has suggested that the speaker's intended meaning is conveyed mainly by verbal content rather than contextual cues in *low-context culture* whereas it is dependent on the immediate social and relational context in *high-context culture*.

Ishii et al. (2003) and Kitayama and Ishii (2002) modified a '*stroop interference test*' in which subjects are shown colour words (e.g., 'red'). These words are presented in either denoted by the name (e.g., the word 'red' presented in red ink) colour or not denoted (e.g., the word 'red' presented in blue ink instead of red ink). Then, subjects are asked to name the colour of the word. Response time is measured to demonstrate interference. They manipulated tone in word evaluation and word in tone evaluation (e.g., the word 'happy' is uttered in sad voice). In word evaluation participants were asked to make a judgment about whether the presented word by tone means 'pleasant' or 'unpleasant.' On the other hand, in tone evaluation participants were asked to make a judgment about whether the tone sounded 'pleasant' or 'unpleasant.' Participants were tested in their native languages. The response time of Japanese participants showed a significantly stronger interference effect with competing vocal emotion in the word evaluation judgment, which suggested that they had a tendency to have greater difficulty in ignoring vocal tone than ignoring verbal content. On the other hand, those of American participants showed significantly stronger interference effect with competing word evaluation in the vocal emotion judgment, which indicated that they had the opposite tendency to the Japanese participants. Ishii et al. (2003) and Kitayama and Ishii (2002) suggested that attentional bias to favour one aspect over the other is attributed to culture. Ishii et al. (2003) and Kitayama and Ishii (2002) have argued that these results can be seen as in parallel with Hall's notion of high and low-context culture (1976). The role of contextual cues including non-verbal cues such as the speaker's tone of voice is more important in a *high-context culture* than a *low-context*

culture (Ishii, Reyes and Kitayama 2003; Kitayama 2000; Kitayama and Ishii 2002; Miyamoto and Kitayama 2002). Kitayama (2000) also explained that European American cultural contexts are ‘*analytic*’ in that they demonstrate ‘a persistent tendency to focus on an object, along with a relatively lowered sensitivity toward contextual information (p.224).’ In contrast, Asian cultural contexts are ‘*holistic*’ in that people in such cultural contexts have a tendency to show more sensitivity to context. Differences in attentional bias found in the studies of Ishii, Reyes and Kitayama (2003) and Kitayama and Ishii (2002) (i.e. American participants’ attentional bias for verbal content and Japanese participants’ bias for vocal tone), therefore, can be seen as reflections of cultural variations.

Kitayama and Ishii (2002) also argued that the nature of processing systems involving the comprehension of emotional speech reflected cultural divergences based on high- versus low-context patterns of communicative practices and conventions. Those suggestions and arguments are based on a cultural-psychological approach to human and social science that elucidates how cultures create and support psychological processes, and how these psychological tendencies in turn support, reproduce and sometimes change the cultural systems (Kitayama 2000: 219). Kitayama (2000) argued against the universalistic view that human cognition involves hard-wired mechanisms that exist irrespective of cultural variation. Kitayama (2000: 220-221) says:

‘The mutually constructed relation between culture and the psyche is formed through human development. We are born into a culture with its own set of practices and meanings, laid out by generations of people who have created, carried, maintained, and altered them... Each individual is assumed to actively engage in cultural resources, which in turn have *formative* influences on his or her psychological processes. Hence, culture not only provides cognitive content, but it may also shape cognitive processes, some of which can be reasonably called basic ...’

Kitayama (2000) has suggested that cultural variations predict biases in basic cognitive processes such as inference, reasoning, memory, and attention. Such cognitive

differences are fundamental, rooted deeply in their own cultural presentations, in other words, specific cognitive biases could stem from cultural differences. Kitayama and Ishii (2002) suggested that not only use of language but communicative practices and conventions also underlie cognitive mechanisms involving processing of verbal and non-verbal information.

Studies by Ishii, Reyes and Kitayama (2003) and Kitayama and Ishii (2002) provided interesting results with regard to this. However, there are some problems with their assumptions about communication: ‘the implicit rule of thumb’ for communication in low-context cultures such as North America/English is that what is said in a word is what is meant whereas ‘the implicit cultural rule of thumb’ in high-context cultures such as Japan/Japanese is that what is said makes best sense only in a particular context (Kitayama and Ishii 2002:32). Kitayama and Ishii (2002:32) exemplified the difference between the two types of cultures in the way that the speaker’s meaning was inferred as follows:

‘for example, in low-context cultures and languages... when someone says “Yes”, the listener ought to construe, first, the utterance to mean an affirmation of some kind. Only after this initial assignment of meaning may an adjustment be made on the basis of other contextual cues including the attendant vocal tone. Once socialised in such a linguistic and cultural system, individuals will have developed a well-practised attentional bias that favours verbal content. In contrast, in high-context cultures and languages, ... when someone says “Yes” in a relatively reluctant tone of voice, the tone of the voice should figure more prominently, along with other available contextual cues, for the listener to infer the “real” meaning of the utterance. Once socialised in such a linguistic or cultural system, individuals will have developed a well- practised attentional bias that favours vocal tone.’

This cannot be right. From this explanation, in a low-context culture, contextual information is not taken into consideration until linguistic information is encoded. First, relevance theory (Sperber and Wilson 1995) argues that verbal content or linguistic inputs are just pieces of evidence regardless of cultural background. The speaker’s

intended meaning is inferred by accessing information from various sources and integrating them with explicatures in which context plays the most important role.

Given that all sorts of human communication are essentially inferential as relevance theory (Sperber and Wilson 1986/1995; Sperber 1995) claims, it does not seem rational to say that contextual cues including tone of voice play a prominent role in one culture and a less prominent role in another. Second, there is no order for each inferential process as Kitayama and Ishii (2002) described here (i.e. contextual cues such as vocal tone is considered after mapping lexical meaning to a linguistic input).

Kitayama and Ishii's observation that Japanese participants' have an attentional bias towards vocal tone is interesting. However, this does not indicate that interpretations of the speaker's implied meaning are not context-dependent in North American culture or in English.

4.3.3 Non-native speakers' use of English intonational form as signals

This section looks more closely at how non-native speakers of English use English intonation as cues toward their interlocutors in conversation. In the literature, it has been suggested that although links between the speaker's intentions and choice of tones is to large extent universal, the exact realisations of pitch movement (falls and rises) seem to be language-specific (Jenkins 2000:43, Cruttenden 1997:163 cited in Pickering 2009:251-2). Wennerstrom (1994) investigated the major similarities and differences in using the basic components of intonation (e.g. high-low pitch accents, phrase accents, and boundary tones) between English native speakers and L2 speakers of English. She found different tendencies in an oral reading task and a structured free-speech task between second language speakers and native speakers: second language speakers used a) less pitch increase to signal new or contrastive information; b) less decreased pitch and reduced volume on the redundant word; c) less frequently raised pitch at phrase

boundaries.⁶⁴ According to Wennerstrom, those tendencies of L2 speakers indicated a possibility that they might miss important aspects of the discourse structure. She suggested that those differences could be attributed to a combination of the influence of L1 (how pitch functions in their native languages) and the amount of exposure to native spoken English (Wennerstrom 1994: 417).

Pickering (2009) and Pickering and Litzenberg (2011), focusing on tone choice (pitch movement of falls and rises), key choice (change of pitch level between high, mid, and low), and placement of tonic stress, investigated whether there are differences between native speakers and L2 speakers of English in the use of intonation for signalling ‘trouble spots’ and negotiating solutions for them. Students of an Intensive English Program in the US were given a short set of questions about class time and class structure of the program and asked to discuss with classmates freely. Their conversations were recorded. The results from these two studies suggested that L2 speakers employ some but not all aspects of intonation structure and functions common to native speakers (Pickering and Litzenberg 2011: 88). For instance, one of the recordings showed that L2 speakers’ intentional use of ‘*falsetto voice*’ (stylised voicing with a very high pitch)⁶⁵ was evident in their study (Pickering and Litzenberg 2011). The results showed that L2 speakers used a very high pitch level in order to mimic the ‘voicing’ of others (e.g. mimicry or quoting) in quoted speech. Other recording, on the other hand, showed that while native speakers raised tone instead of a falling tone to avoid overt contradiction to a previous speaker, there was no evidence of such use of ‘*socially integrative*’ tone choice among L2 speakers. There were also cases observed in which L2 speakers completely misplaced tonic stress. Pickering (2009) and Pickering

⁶⁴ See Wennerstrom (1994) and Beckman and Pierrehumbert (1986) for the details about linguistic influence of Japanese on the use of intonation in English.

⁶⁵ Szczepek Reed (2009:130) had defined the voicing of imaginary figures as ‘*stylized prosodic orientation*’ (cited in Pickering and Litzenberg 2011:85). Pickering and Litzenberg (2011) referring to Szczepek Reed (2009:91-2) have suggested that native speakers use prosodic stylization in order to draw the audiences’ attention. See Szczepek Reed (2009) for the details.

and Litzenberg (2011) suggested that while pitch universals may exist, functions of intonation involving pitch movement and a change of pitch level are not necessarily the same for native and non-native speakers.

Although these studies (Pickering 2009; Pickering and Litzenberg 2011; Wennerstrom 1994) have compared second language speakers' production (use) of English intonation with that of native speakers, it is reasonable to assume that recognition of paralinguistic cues (i.e. tone, intonation) may be also affected by language and/or culture. If this assumption is right, then non-native speakers may not necessarily be able to recognise the ironic speaker's prosody. Even if they could, a function of particular prosody may vary culture by culture, which leads to recognition of prosodic cues as a factor affecting non-native speakers' interpretation processes of ironical interpretation.

4.4 Cognitive demands on processing linguistic inputs in a second language

This section considers the effects of processing demands in a second language. These effects were suggested as factors affecting ironic interpretations of non-native speakers (Shively et al. 2008). This section considers this possibility looking closely at findings from studies that investigated cognitive factors attributed to L2 proficiency development and outputs in L2. It first considers how automatising of processing in L2 relates to overloaded cognitive demands. It then considers the relationship between non-native speakers' less automatised processing and the capacity of working memory component.

4.4.1 Automatising of processing

Poelmans (2003) pointed out that L2 speakers often face difficulties with listening comprehension, which is 'the complex of processes that transform an auditory stimulus to a mental reconstruction on the part of listener of the speaker's intention (2003:9).' She (2003:1) suggested that L2 speakers might not be able to use the knowledge of language they have (e.g., vocabulary, grammar, and pronunciation) in a fluent (i.e.

accurate and fast) way. She argued that one of the important differences between listening comprehension and reading comprehension is use of language knowledge with or without time pressure. For instance, some studies (Hoover and Dwivedi 1998; Juffs 1998, 2004, 2006; Juffs and Harington 1995, 1996) suggested that L2 learners seem to process syntactic information of texts in L2 in a similar way to native speakers. It was evident that they processed even ambiguous sentences such as ‘garden-path’ sentences in the same way as native speakers (Juffs 2006: 96). Contrary to this, some studies (Poelmans 2003; Randal 2007) reported differences between non-native speakers and native speakers which are assumed to relate to the speed of processing. Randal (2007) suggested that parsing processes in L1 are unconsciously executed, and processes are highly automatic. This however, is not the case for non-native speakers. It seems that non-native speakers consciously process lexical items and syntactical structures with greater effort. Considering time pressure during real-time listening, processing of inputs in L2 may be constrained more severely in listening comprehension. Before looking closely at the findings from experimental studies on the relation between listening comprehension and automatization of lower-order processes, it is worth mentioning what automatization involves.

In the literature on a distinction between automatic and controlled processes, a difficulty with defining what exactly automatization involves has been pointed out.⁶⁶ Poelmans (2003:30) reported that ‘automatization’ has been considered as a continuum with controlled and automatized processes at each end with processes in between that involve a process of gradual quantitative change (speed-up) in the execution of task components, gradual improvement of the same process, or the ever more efficient use of rules and the ever faster retrieval of instances from memory. Recent theories have accounted for ‘automatization’ not as a reflection of how much attention is required but

⁶⁶ See Shiffrin and Schneider (1977) for very thorough discussions about the automaticity/control distinction.

as a reflection of how memory is used. Task performance will become faster and more stable after intensive practice.⁶⁷ Dekeyser (2001) has further drawn a clear line between the concepts of ‘automaticity’ and ‘automatisation’.⁶⁸ Dekeyser suggested that ‘automaticity’ refers to the speed and ease with which tasks are carried out, and ‘it is the result of a slow process of ‘automatisation’ rather than automatisation as the process leading up to automaticity (2001: 130)’. This is saying that without practices and time spent, the process of ‘automatisation’ would not become speedy and easier. According to Dekeyser (2001:125), human ability to use language is an example of ‘automaticity.’ As speakers in a conversation, individual humans can convert thoughts and emotions into sound waves through complex strings of cognitive processes within a fraction of a second. At the same time, as interlocutors they can instantly convert those sound waves back into thoughts and emotions, and attribute those thoughts to others. Poelmans (2003:30) suggested that automatised processing will be achieved after the influence of, or the reliance on, slow and controlled processes is eliminated.⁶⁹

Goh’s study (2000) indicated that not only processes of sound-to-script or word-referent mapping but also processing of parsing might be conscious and controlled in L2. Goh (2000), applying Anderson’s (1995) cognitive framework of the three-phase model of language comprehension, identified what kinds of problem Chinese L2 learners come across at which phase of cognitive processing. According to this framework (Anderson 1995, cited in Goh 2000: 57), L2 listening comprehension processes can be divided into three different phases: ‘perception,’ ‘parsing,’ and ‘utilisation.’ During the phase of perception processing, acoustic input (i.e. sounds) is

⁶⁷ Based on a survey of the literature, Poelmans (2003:30) reported that earlier theories had suggested that the speed of the processes, the error rate, the effort required, the capacity used, and the level of possible control were considered as aspects that distinguish mutually exclusive ‘automatised’ and ‘controlled’ processes.

⁶⁸ See Dekeyser (2001), Poelmans (2003, §2.6) for a good summary and references of literature on criteria for automaticity and characteristics of automatised.

⁶⁹ There have been theories in the literature of second language acquisition that account for the place of automatised in skill development. Two theories are the mainstream: the rule-based ACT-R theory by Anderson (1993) and the item-based Instance theory by Logan (1988). See Dekeyser (2001), Poelmans (2003).

discriminated and segmented into phonemes from the continuous speech stream. The phase of 'parsing' involves segmenting an utterance based on syntactic structures. These segments (i.e. words) are recombined to form a mental representation. During the 'utilisation' phase, such mental representations are compared with existing knowledge and stored in long-term memory as propositions or schemata. Already stored mental representations are retrieved during this 'utilisation' phase. These three phases are interrelated and recursive. They do not necessarily happen in this order and can occur concurrently. The data was collected from learners' diaries, small group interviews and immediate retrospective verbalisations in which all participants were asked about learners' processing strategies and descriptions of listening difficulties that they had experienced. The results showed that problems seemed to occur across all the three phases. During the perception phase, Chinese L2 learners seemed to fail to recognise a word as a distinct word or as groups of words from the sounds (slow recognition). Another problem that occurred during this phase was that they were slow to activate knowledge about the word. Goh explained that they could perceive sounds but they could not or could not quickly enough activate their knowledge about perceived sounds, which are already mentally stored (already learnt). During the parsing phase, Chinese L2 learners appeared to fail to allocate attention to relevant inputs from the stream of speech. Their attention was fixated on unfamiliar words or a particular text, and this attention fixation hindered learners from processing the flow of incoming information. One of the problems during the parsing process was related to what Goh called '*quickly forget what is heard*': Chinese L2 learners cannot remember certain words and phrases they had just heard (Goh 2000: 60). Although they did understand certain words or phrases, Chinese L2 learners forgot them as soon as they started processing the next inputs. At the utilisation processing phase, the main problem was a failure to interpret the speaker's intention. Even though they did manage to encode each word in a given

utterance they were not able to understand the point of the utterance. A comparison of high- and low-level listeners revealed that such a problem was more evident among high-level listeners. This did not suggest that low-level listeners did not have problems with interpretation. It was rather that low-level listeners did not get beyond the perception or parsing phases. Besides, the majority of problems that low-level listeners had occurred during the perceptual processing phase. Goh's findings seemed to confirm the automatization hypothesis (Segalowitz and Segalowitz 1993) that automatized processes of aural word recognition are conditional on successful listening comprehension (cited in Poelmans 2003:4).

Poelmans (2003:4) made the similar suggestion that non-native speakers' listening comprehension might be strongly related to automatization of lower-order processes. She (2003:10) defined a proposed 'word recognition' module, one of the four sub-processes of the listening comprehension process as 'breaking up the stream of sounds into linguistic units (morphemes, words) and retrieving their meaning from long-term memory.' She suggested that the 'word recognition' process draws heavily on linguistic knowledge (i.e. lexical knowledge, knowledge of the rule system of the language) and that the difference between higher proficiency L2 learners and lower proficiency L2 learners lies in the degree of automatization of this process (2003:19). Poelmans (2003) investigated how the listening comprehension abilities of adult learners of Dutch were related to automatization of spoken word recognition. She found that the process of spoken word recognition was more controlled compared to those of native speakers whose processing was automatized. Poelmans (2003:19) suggested that an automatized process of word recognition is necessary for successful listening comprehension, and language proficiency may predict the status of this process (ranging from more controlled to fully automatized).

It has also been suggested (Taguchi 2007, 2008a, 2008b) that speedy processing of lexical information seemed to facilitate the speedy processing of the speaker's intention. Taguchi (2007, 2008a, 2008b) investigated how processing speed of interpretation of the speaker's implied meaning in indirect refusal and indirect opinion related to lexical access skill (processing lower-order information, i.e. word meaning quickly). Lexical access skill was measured by a semantic judgement task ('lexical access test,').⁷⁰ The results showed that reaction times of the pragmatic listening test were significantly related to development of lexical access skill: as Japanese L2 learners became faster in recognising individual English words and making semantic judgements on each word, reaction times in interpreting the implied meaning reduced. After they reached a certain threshold level of speed in the lexical access test (LAT), reduction of performance speed became less profound. Taguchi (2008b: 524) suggested that lexical access skill might underlie 'conventionalized implicature' comprehension mechanisms. As this process gets speedier, overall processing load becomes less and less, and this results in cognitive capacity becoming more available for higher-order processing such as processing of information from multiple non-linguistic sources. In the light of the results of her studies (2005, 2007, 2008a, 2008b), Taguchi (2008a) suggested that the developmental patterns of accuracy and processing speed were independent dimensions in L2 pragmatic comprehension and follow separate developmental paths involving different L2 abilities. It was evidenced in her series of studies that the effect of general language proficiency on processing speed of interpreting the speaker's implied meaning was not as straightforward as on accuracy in interpretation. Development of processing speed seemed to lag behind accuracy development: processing speed did not develop as quickly as demonstration of accuracy of pragmatic knowledge. It was revealed that

⁷⁰ LAT was a computerized word recognition test which measured participants' speed in semantic judgment of individual words. Judgments were based on whether each word refers to a living or non-living object (e.g. the boy = living; a pen = non-living).

accuracy rate in interpretation had improved along with development of general language proficiency and no significant relationship was found between accuracy and development of lexical judgement ability. Processing speed, on the other hand was found significantly related to development of lexical judgement speed. No relationship between processing speed and the growth of general language proficiency was found. Taguchi suggested that pragmatic comprehension competence is two-dimensional, involving knowledge and use of knowledge. This seems to parallel Poelmans's suggestion (2003:4) that language knowledge is of little effect on L2 listening comprehension unless automatic processes of word recognition are achieved. Acquisition of adequate knowledge of language i.e. vocabulary and grammar, to construct grammatically sound sentences and the ability to use such knowledge under time pressure may be different. As Poelmans has suggested (2003:4), the latter involves abilities to access and retrieve the knowledge of language from mental lexicon automatically.

4.4.2 Limited working memory capacity

Working memory (WM) is a specific set of cognitive processes responsible for temporarily storing and manipulating information that is assumed to be necessary for a wide range of complex cognitive tasks from reading newspapers or calculating remaining time before an appointment to comprehension, learning, and reasoning (Baddeley 2003:189; Miyake and Shah 1999:1). There have been some studies (Call 1985; Cook and Liddicoat 2002; Goh 2000; Taguchi 2008b) which have explored a potential relation between less automatic processes of L2 learners and limited working memory capacity. Taguchi (2008b: 524) suggested that as lexical access processes get speedier, overall processing load becomes less and less, and this, in turn makes cognitive capacity more available for higher-order processing such as processing of information from multiple non-linguistic sources (p.524). Goh (2000) also pointed out

that processes at perception phase need to flow automatically since information processed will be erased from the limited capacity of short-term memory in order to make room for new input unless it is associated with the information that has been processed earlier or that has been stored in long-term memory. Cook and Liddicoat (2002) suggested a relation between automatic processing and the capacity of space for processing. L2 learners' processing of linguistic inputs was more controlled (not automatic). Cook and Liddicoat (2002) reported that the ability to interpret the speaker's intention in request speech acts (direct request, conventional indirect request, non-conventional indirect) was affected by the degree of directness: the less direct a given utterance was, the less accurately L2 learners could interpret it. The results of their study also showed that L2 learners interpreted the speaker's intention in request speech acts more accurately along with the growth of their language proficiency. They reported that lower L2 learners seemed to interpret a given utterance based on word-by-word interpretations rather than associating its linguistic form with appropriate contexts. Cook and Liddicoat explained that the effect of language proficiency on accurate interpretation might be related to the amount of processing capacity available to encode and interpret linguistic input: capacity for processing contextual information might be determined by how much capacity is devoted to processing linguistic inputs (Cook and Liddicoat 2002:30-31). They suggested that reliance on contextual knowledge may change depending on degree of indirectness of request speech acts: the more direct a request is, the more its interpretation depends on linguistic knowledge whereas the less direct a request is, the more its interpretation depends on contextual knowledge. Cook and Liddicoat (2002) suggested as an implication of this that L2 learners might use up much of their cognitive resources by accessing linguistic knowledge. Call (1985) surveyed earlier studies suggesting that there was a difference in short-term memory span between native language and target language, and that development of language

proficiency predicts an increase in the amount of input in a target language that can be processed at one time.

In the field of psychology, Just and Carpenter (1992) and Just, Carpenter and Keller (1996) also suggested that all processing of linguistic inputs are drawn on in the limited capacity of memory. If this capacity is exceeded due to high demands of storing processed information and/or further processing of continuously incoming inputs, processing slows down or part of linguistic information is discarded from memory.⁷¹ Randall (2007) also suggested that less automatic linguistic parsing and analysis imposes an increased cognitive load, and processing speed is slowed down, which leaves less capacity of cognitive resources available for (a) holding longer chains of language to combine with incoming information, and (b) processing the wider contextual environment, such as prosodic elements or visual contexts. Hoover and Dwivedi (1998) noted that extra sentence processing (parsing) might be delayed until working memory is freed up, and other things equal, longer reading time reflects greater processing load.⁷² Kormos and Sáfár (2008) suggested that larger capacity of working memory is correlated with the acquisition of syntactic and lexical knowledge.

In the psychology literature, working memory has been considered as one of the most critical components of cognitive and linguistic achievement (Linck, Osthus, Koeth and Bunting 2013:863). In the field of psychology, a variety of models that account for WM exist (See Linck et al. 2013, Miyake and Shah 1999 for summary of other models). These models consider that working memory plays an essential role in complex cognition: ‘it orders, stores, and manages immediate sensory details until they can be properly incorporated into the cognitive process that must integrate that data (Linck,

⁷¹ See Waters and Caplan (1996), MacDonald and Christiansen (2002) for critiques of the capacity theory of sentence comprehension (Just and Carpenter (1992).

⁷² See Hoover and Dwivedi (1998) for two theories account for cross-linguistic models of syntactic processing: module or experience-based.

Osthus, Koeth and Bunting 2013:862).’ After taking several steps in developing the theory (Baddeley 1986; Baddeley and Hitch 1974; Baddeley and Logie 1999; Gathercole and Baddeley 1993), Baddeley’s current multi-component model (Baddeley 2000, 2003) explains that the unitary construct of WM consists of two systems: a system of short-term storage of information⁷³ (i.e. a ‘slave system’) and an executive, attentional system that controls information between the slave system and ‘long-term memory’ where accumulated information is kept over a period of time (Linck et al. 2013:862). Baddeley (2003) proposed to divide the unitary storage-based system into three separable components: ‘the phonological loop,’ ‘the visuo-spatial sketchpad,’ and ‘the episodic buffer.’ ‘The phonological loop’ is responsible for phonological and verbal information whereas ‘the visuo-spatial sketchpad’ processes visual and spatial information. The episodic buffer, which has recently been proposed (Baddeley 2000), is considered a temporary storage system where information from a number of different sources is combined into chunks or episodes (Baddeley 2003:203). These three subsystems hold a limited amount of information for immediate, accurate recall (availability), and the speed that information can be recalled (accessibility) (Linck *et al* 2013:862). Information kept in these short-term storages is available only for seconds before fading from WM due to decay and/or interference processes. On the other hand, an executive, attentional system, called as ‘the central executive’, controls the three short-term storage mechanisms. Its primary function is to control attention necessary to maintain focus and inhibit information that might distract from or interfere with successful task execution (Engle and Kane 2004, cited in Juffs and Harrington 2011:140). The central executive also controls processes of search and retrieval of previously stored information in long-term memory during task performance.

⁷³ In the discipline of cognitive psychology, there has not always been a clear-cut distinction between working memory and the prevalent concept of “short-term memory (STM).” See Aben, Stapert, and Blokland (2012) and Miyake and Shah (1999) for discussion about distinction between WM and STM.

Linck, Osthus, Koeth and Bunting (2013) suggested individual differences in the capacity of WM (i.e. how much information can be processed). People differ in a) the ability to remember new information encountered while reading, b) the ability to make inferences about information encountered while reading, c) the ability to access knowledge from long-term memory, and d) the ability to integrate new information with knowledge from long-term memory (Daneman and Hannon 2007, cited in Linck, Osthus, Koeth and Bunting 2013:863). The notion of individual differences in ‘the capacity of WM (WMC)’ with language proficiency has been of great interest to researchers in the field of second language acquisition. In particular, a considerable number of investigations has been conducted looking into the role of WMC in simple tasks in L2 learning (i.e. learning of L2 vocabulary or L2 grammar, oral performance) and in more complex tasks such as reading comprehension, conversational interactions, and on-line processing (see Juffs and Harrington 2011, Link and Weiss 2015, Nielson 2013 for summary). Two studies of comprehensive meta-analysis concerning the relation between WM and L2 processing and outcomes (Daneman and Merikle 1996; Linck et al. 2013)⁷⁴ suggested that a positive relation between WM and L2 outcomes is robust. Linck et al. (2013:880) reported that ‘the results are congruent with claims that WM is an important component of the cognitive processes underlying bilingual language processing and performance on measures of L2 proficiency.’ On the other hand, Juffs and Harrington (2011) pointed out that while the relation of WM with both the development of L2 proficiency and use of L2 is robust, which component of WM (short-term storage component or the executive control component) contributes to the effect has remained an open empirical question (p.142). Until recently it had not been firmly identified which component of WM namely short-term memory (STM) and the executive control has the effect, and the resulting suggestion had been inconsistent

⁷⁴ Daneman and Merikle (1996) have analysed 77 studies involving 6,179 participants whereas Link et al. have analysed 79 studies involving 3,707 participants.

across studies (see Juffs and Harrington 2011 for discussion and Linck et al. 2013 for recent review). Linck et al. (2013:875-6) reported that more contemporary studies provided more evidence that the amount of handling cognitive processing demands in L2 seems to relate more to greater WMC of executive control than short-term storage component, which are simply responsible for storing an active representation temporarily (Link and Weiss 2015).

A possible relationship between WMC and processing of listening comprehension has not been explored. The number of studies focusing on listening comprehension has lagged behind reading comprehension studies. In the light of suggestions of existing studies concerning reading processing, it can be assumed that listening comprehension may also be constrained by WMC. In most of the cases of verbal conversation, the speed of flow of information, intake of information, or which information should be taken is beyond interlocutor's control. Unless information is organised and safely stored in mind, the interlocutor cannot refer back to it. During real-time listening, non-native speakers are required to use language knowledge (including knowledge of phonetic, syntactic, semantic) and coordinate such linguistic properties of utterances with all sorts of contextual information available for adequate communication. Besides, all these requirements are under time pressure. Automatised lower-order processes may free up capacity of working memory for higher-order processes i.e. inferential processes. Given that processes are necessary for constructing a set of assumptions about the ironic speaker's implied meaning (i.e. access to information from different sources and integration of the information with background knowledge stored in long-term memory), it seems more relevant to consider the capacity of the executive control system rather than simple short-term capacity in order to explore impacts on processing of ironic utterances.

It is, however, important to note that there have also been some studies that do not confirm the important role of WM in learning an L2. Juffs and Harrington (2011) argued that the importance of WM in relation to L2 processing might be overstated. They pointed out that inconsistent results across studies might be attributed to diverse research methodologies such as varying languages of WM assessment, sample size, L2 proficiency level, stage of learning. For instance, Daneman and Merikle (1996) suggested while complex span tasks seem to have an advantage over simple span tasks as a measurement of L1 comprehension, both simple span tasks and complex tasks have been found as significantly useful to measure L2 processing and proficiency outcomes in L2 literature. Juffs and Harrington (2011) have suggested that measuring simple short-term storage capacity and measuring more complex component of WM (processing capacity) are two different things: the former can be measured by the number or span of unrelated digits or words whereas measurement of the latter needs a more complicated task involving simultaneous demands on both storage component and processing component. Given that those two different tasks measure the capacity of two different components, it suggests that the findings and suggestions of Daneman and Merikle (1996) are less reliable (Linck et al. 2013:863). Taguchi's (2008b) study discussed earlier might be another example. Taguchi investigated the relation of WMC to the accurate and speedy comprehension of conventional implicatures. She measured WMC by reading span test (RST). The results revealed that working memory capacity had no relation to speed of interpretation processing or to accuracy in interpretation. Taguchi explained this result by pointing to two methodological problems. First, the RST that Taguchi used in this study was designed to measure WMC in L1, participants' native language (Japanese). In addition, RST was designed to measure reading skill whereas pragmatic comprehension test was designed to measure listening skill. She acknowledged that this might have contributed to the results. She (2008b: 533)

suggested that working memory capacity available for L1 and for L2 might not be the same and gave an implication that it is necessary in future research to consider different modes of presentation (auditory and visual) and measuring different cognitive abilities (L1 and L2).

4.5 Summary

This chapter considered a range of factors that have been suggested as affecting non-native speakers' comprehension of potentially ironic utterances: culture-dependent difference, differences in the recognition of prosodic cues, and differences in the assumed more limited capacity of working memory. Discussions in this chapter laid the groundwork for experimental work of the present study, which is reported in Chapter 5. The findings from these studies considered here gave a clear direction to the objectives of investigations in which the role of prosodic cues in guiding Japanese speakers of English as second language to potentially ironic interpretation is focused.

First, this chapter taking a more cognitive stand towards the influence of culture aimed to give some systematic explanation of how cultural differences would play a role in the interpretation processes of ironical utterance. This study suggested a different way to look at a culture as a geographical bordered aggregate, which consists of individuals who have different culture representations. While accepting the influence of culture variations on interpretation processes, it stressed that overcoming differences in culture knowledge would not guarantee invariably "correct" interpretation, which indicated that misunderstandings in fact do occur in absence of cultural differences. Adopting ideas of a process of fallible hypothesis formation and evaluation from relevance-theoretic account (Wilson 1994), this study explained a role that culture might play in the hearer's building up a rational basis for a choice of contextual assumptions.

This chapter also considered differences in the recognition of prosodic cues as a factor contributing to differences in interpretations of the speaker's communicative

intention between native speakers and non-native speakers. The ideas of the universality of ‘inferential rules’ and ‘in-group advantage’ found in the recognition of vocally expressed emotion in foreign language provided a clear and deeper insight into the potential of the recognition of prosodic cues to understand better the comprehension of potentially ironic utterances in a second language. Given that the possibility that efficient and fluent processing in a second language is constrained by greater cognitive processing demands of linguistic inputs, this study assumed that accessing information from different sources makes it more difficult and longer for non-native speakers to make an inference about the speaker’s meaning.

Based on a survey and review of studies discussed here, this chapter suggested a focus on the recognition of prosodic cues as a direction of investigations on non-native speakers’ interpretation of potentially ironic utterances. The next chapter reports how the present experimental work investigated the role of prosodic cues in guiding the interpretations of Japanese speakers of English as a second language and what it has suggested about the comprehension of potentially ironic utterances in a second language.

CHAPTER 5. EXPERIMENTAL WORK

5.1. Overview

This chapter presents the findings of two experiments aiming to explore one factor which factor that might explain differences between first language and second language speakers in the interpretation of potentially ironic utterances. The aim was to explore and compare the effects of different kinds of prosodic cues in guiding the interpretations of first and second language speakers. The first part of this work, an experiment conducted using an online survey ('SurveyMonkey': <http://www.surveymonkey.com/>), provided surprising evidence, suggesting that in fact Japanese non-native speakers of English can respond to potentially ironic utterances in a similar way to native speakers of English (and this seemed not to be affected by individual differences with regard to language proficiency, length of residence in the UK or experience of living in English speaking countries).

The second experiment, conducted in a laboratory, explored the effects of prosodic cues. The present experimental work used three kinds of prosodic form which were labelled here as a 'baseline' tone (a kind of default, unmarked form), a 'deadpan' tone (with a narrower pitch range), and an 'exaggerated' tone (with a wider pitch range). This found that Japanese speakers of English can perceive English prosodic structure in similar ways to native speakers and are affected by the different forms in similar ways. It also identified two specific differences in responses to prosodic cues. While the responses of Japanese participants were affected by these in similar ways to native speakers, the evidence also suggested that they might be affected less strongly by 'exaggerated' intonation and slightly more strongly by 'deadpan' tones.

This chapter is organised as follows. Section 5.2 presents the rationale for the two experiments. It discusses how the experiments differ from and arise from discussion of previous experimental studies and how they address specific research questions and

hypotheses. Section 5.3 reports the first experiment, based on an online survey. The questionnaires used here were designed to explore the extent to which Japanese speakers recognise a potentially ironic speaker's attitude in a similar way to native speakers and the extent to which this is affected by different backgrounds of individual Japanese speakers, with regard to language proficiency, length of residence in the UK, and experience of living or studying in English-speaking countries. Section 5.4 explains the development of the experimental design of Experiment 2. First it reports a pilot study, conducted with the aim of giving clearer directions and ideas for Experiment 2 and suggesting adjustments to the materials. Although the pilot study had a fairly small number of participants (8 Japanese speakers and 16 native speakers), its preliminary findings indicated that the contribution of prosodic information to the speaker's intended meaning might be a good variable to focus on in exploring similarities or differences in response trends between non-native and native speakers. It explains how the method was developed in the light of findings from the pilot study. Section 5.5 reports the findings of Experiment 2, which explored the effect of the speaker's tone of voice (prosody) and its interaction with context on potentially ironic utterances. The Japanese speakers' response trends in preference for ironical interpretation were compared with those of native speakers of British English. The section ends with reporting the results and showing how they support the conclusions mentioned above.

5.2 Research design

5.2.1 *Rationale*

The suggestion of previous studies that second language learners understand irony differently from native speakers was based on assumptions from misleading theory and flawed methods. The ironic speaker's meaning was assumed to be the opposite of the proposition literally expressed by the utterance and these studies did not focus on the speaker's attitude. Previous studies also compared the interpretations of non-native

speakers with those of native speakers with regard to a notion of “correct” or “wrong” interpretations based on the assumption that native speakers’ interpretations are always “correct.” Previous studies referred to the idea of ‘cultural differences’ without making clear how exactly cultural variation related to inferential processes. They discussed individual cases where norms or beliefs varied across cultures (e.g. in Korea and Thai cultures), but the descriptions seemed to be arbitrary and they did not suggest a systematic account of how cultural differences can bring about different interpretations.

The present study aimed to investigate the extent to which non-native speakers understand an ironic speaker’s attitude towards an attributed thought in the same or a similar way to native speakers and to explore possible factors that may affect inferential processes involved in ironic interpretation. A number of factors may affect inferential processes in a second language and so may lead to different ways of understanding potentially ironic utterances. These may involve not only cultural but also pragmatic, linguistic or/and cognitive aspects. One possibility is that aspects of irony (i.e. its nature, functions and types) may be different in different cultures and so influence understanding. While it is usually assumed that irony exists in all (or almost all) cultures, irony may be used for different functions and/or in different social settings. Types of irony may also vary one culture after another. All the examples of irony used in previous studies followed the ‘classical’ prototype where we could see the speaker as saying one thing and meaning the opposite. However, there are other cases where interpretation is not derived by accessing the opposite of what is said, i.e. where speakers actually do mean what they have literally said but can still be taken to be speaking ironically. Not all the cases of irony fall squarely within the classical prototype. It is not known whether or not the type of irony involved affects interpretations of non-native speakers. A study I carried out earlier (Togame 2006) suggested that Japanese speakers might interpret certain types of irony, including

ironical understatement, in a different way to native speakers. It is widely accepted that what Japanese speakers term '*hiniku*' is the Japanese equivalent of English verbal irony (Togame 2006). Since '*hiniku*' is used as a means to express the speaker's negative attitudes towards a particular person or a group of people, the existence of an identifiable target is necessary for '*hiniku*' to be successful. Thus, its functions are much more similar to what is usually described in English as sarcasm. Given '*hiniku*' has much narrower functions, it is possible that Japanese speakers might find it more difficult to understand ironical understatement where there is no clear target of the irony. Not only types of irony (e.g. typical type, ironical quotation, ironical understatement) but also various elements of the echoic nature of irony could be included in the list of the factors that potentially influence the interpretations of non-native speakers. The echoic account of irony suggests that the 'degree of echoing' can range from immediate echoes to distant ones. Ironical utterances sometimes echo an actual utterance, and at other times echoes are less obvious (e.g., echoes of unspoken thoughts, hopes, fears, etc.). In the rich literature and extensive research on the comprehension of irony in a first language, i.e. on how irony is understood, it has been suggested (Wilson 2006, 2013; Wilson and Sperber 1992, 2012) that the ironic speaker's intention may be, but need not always be, signalled by non-linguistic or/and linguistic cues. For example, non-linguistic cues such as paralinguistic cues (speaker's tone of voice), non-linguistic cues (facial expression, body language, gestures), and contextual cues (the visual information from the situation where the conversation is taking place) may help a hearer to understand the ironic speaker's intentions more easily and more quickly. Potentially ironic interpretation might partially depend on recognition of a linguistic indicator. Certain vocabulary choices (e.g., '*yeah, right!*' '*fine*'), syntactic structures (e.g., repetitions, over-polite expressions, combination of adverbs and extreme adjectives) can trigger ironic interpretation (for summary see Yus 2000; for

discussion see Glucksberg 1995; Kreuz and Roberts 1995; Kumon-Nakamura, Glucksberg and Brown 1995; Seto 1998; Yamanishi 1998). Furthermore, not only these pragmatic, linguistic and cultural aspects but also their interaction with cognitive variables may cause further complications. As discussed in chapter 4, it has been evidenced that cognitive factors such as heavier processing load and reduced working memory capacity may interfere with inferential processes in L2. This list of possible factors is by no means complete.⁷⁵ Ultimately, research on L2 irony comprehension necessarily needs to explore these potential factors one by one and to be able to account for their effects. The present study focused on one possible factor: to what extent prosodic information can affect interpretations. This seems to be a natural focus, given that the point of irony is expression of the speaker's dissociative attitude towards an attributed thought, and that the speaker's tone is often, if not always, associated with the corresponding attitudes or emotional state of the speaker. Evidence about the effects of the speaker's tone has been provided by numerous experimental studies (including Ackerman 1983; Chevallier, Noveck, Happé and Wilson 2011; Happé 1993; Gibbs 1986b; Gibbs and Colston 2007; Katz 2000; Keenan and Quigley 1999; Kreuz 2000; Pexman 2008; Pexman, Ferretti and Katz 2000; Pexman, Rostad, McMorris, Climie, Stowkowy and Glenwright 2011; Schwoebel, Dews, Winner and Srinivas 2000; Woodland and Voyer 2011). These studies have involved adults, typically developing children and atypical populations, and have provided evidence for the contribution of tone of voice to irony understanding. On the other hand, only a few previous studies have considered the role of intonation in L2 ironical interpretation (Lee 2002; Manowong 2011; Shively et al. 2008; Yamanaka 2003). Yamanaka (2003) and Shively et al (2008) attempted to investigate recognition of various non-verbal and

⁷⁵ See Rubin, J. (1994) for a review of studies on possible factors that affect second language listening comprehension in general.

paralinguistic information including the speaker's tone of voice (e.g., prosodic information, facial expression, body language and information about the physical environment, etc.) on second language learners' interpretations. However, neither of these studies investigated the effects of tone of voice.

The present study aimed to contribute new understanding of L2 irony comprehension by conducting experiments which investigated the extent to which Japanese speakers understand a potentially ironic speaker's attitude and how the speaker's prosodic contour contributes to their understanding of potentially ironic utterances.

5.2.2 Research questions

The main aim of the present study is to explore the extent to which Japanese speakers as a sample of non-native speakers (NNSs) understand ironical utterances in the same way as native speakers (NSs). Two experiments were conducted to provide answers to this fundamental question. Experiment 1 focused on the comprehension of irony in reading. Experiment 2 focused on the contributions of tone of voice and its interaction with context in real-time listening comprehension. The following two research questions were addressed:

Research question 1(RQ1):

To what extent do Japanese speakers understand the speaker's intention of potentially ironical utterances in the same way as native speakers when a stimulus is presented in texts?

Research question 2(RQ2):

To what extent does the interaction of tone of voice with context relation (relation between the context of a story and the proposition literally expressed in a target utterance) guide Japanese speakers to potentially ironical interpretation in the same way as native speakers?

RQ1 was explored in Experiment 1 where written material was used under untimed conditions (giving participants as much time as they needed to respond).

Methodological issues in previous studies cast a certain amount of doubt on their

claims. This experiment aimed to explore to what extent irony is an ‘obstacle’ for L2 learners when methodological issues in the previous studies (Bouton 1988, 1992a, 1992b, 1998, Lee 2002; Manowong 2011; Bromberek-Dyzman and Ewert 2010) were resolved. Agreement ratings on the speaker’s attitude were measured using not only the classical prototype (describable in terms of the speaker communicating the opposite of what was said) but also a wider range of types of ironical utterances.

Experiment 2 explored RQ2. Experiment 2 was not designed to measure Japanese speakers’ understanding of irony in terms of ‘response accuracy’, i.e. by assigning values of ‘correct/error’ or ‘right/wrong’ responses in comparison to those of NSs. Instead, it looked at ‘response trends’ with regard to preferences for ironical interpretation and processing speed. It considered whether there was a particular disposition to interpret a given utterance ironically depending on the interaction of the speaker’s tone of voice with context. Response trends of Japanese speakers were compared with those of native speakers to see whether there were similarities across the groups. It was assumed that looking for similarities in response trends would be a better way to consider how irony is understood in L2 rather than assuming that native speakers produce ‘correct’ interpretations and that the question is about whether second language participants also produce ‘correct’ responses.

5.2.3 Hypotheses

The central claim of the echoic account is that understanding an utterance as ironic involves recognition of the speaker’s implicit expression of a dissociative attitude towards an implicitly attributed thought or utterance. A key to successful communication is selecting the speaker’s intended assumptions (i.e. ones which the speaker assumed that the hearer will and can access for interpretation). The hearer constructs a set of assumptions by processing new information from immediately preceding texts or discourse and the immediate environment, integrating this with

information from other sources that the hearer has access to at the time of conversation (information about the hearer's own beliefs, religious beliefs and scientific knowledge, assumptions about the world, general cultural assumptions, any shared or idiosyncratic information, or memories of particular things, and so on). Then, the task for a hearer is to select appropriate contextual assumptions from a set of assumptions accessed. It is assumed that recognition of discrepancy of some degree between reality and expectations leads to selection of the appropriate contextual assumptions for ironical interpretation.

The reading comprehension tasks in Experiment 1 were not subject to a time limit. Non-native speakers had plenty of time to reread the sentences or phrases and to pause to think. This means that they had all the time needed to access the information necessary for the construction and selection of contextual assumptions. This test then was designed to provide evidence to confirm or disconfirm the hypothesis related to RQ1 (to what extent do Japanese speakers understand the speaker's intention of potentially ironical utterances in the same way as native speakers when a stimulus is presented in texts?), which is that Japanese speakers would understand the speaker's attitude in a similar way to native speakers. If Japanese speakers can process utterances in similar ways to native speakers in the absence of time constraints, then differences between Japanese speakers and native speakers would be found only in examples that describe a situation in which irony would not normally be used in Japanese cultural contexts (i.e. in ironical understatements).

It has been suggested that the use and recognition of prosody in showing and inferring basic emotions is universal (Bachorowski 1999; Elfenbein and Ambady 2002a; Pell, Monetta, Paulmann and Kotz 2009; Paulmann and Uskul 2014; Paulmann, and Kotz 2009; Scherer 1986, 1997; Scherer and Wallbott 1994; Scherer, Banse and Wallbott 2001; Scherer, Banse, Wallbott, and Goldbeck 1991; Thompson and Balkwill

2006). A speaker can intend to express her emotion or attitudes by varying prosodic features (i.e. pitch, loudness, voice quality, and/or speed) and a hearer then makes inferences about the others' emotion or attitudes by paying attention to such prosodic attributes (Paulmann and Uskul 2014:237). Japanese child developmental studies (Katsuura 2009; Kondo and Hayashi 2015) provided evidence that, although the speed of development varies depending on a particular emotion,⁷⁶ typically developing (TD) Japanese children are able to recognise the emotional state of others from prosodic contours as accurately as adults by the age of around seven. Some studies (Imaizumi, Kinoshita and Yamasaki 2008; Noguchi, Ozawa, Yamasaki and Imaizumi 2004) also tested Japanese TD children's judgment of linguistic valence in linguistic tasks and emotional valence in emotional tasks.⁷⁷ Simple phrases were taken out of context and were spoken in two contrasting affective manners: either a 'congruent manner' or an 'incongruent manner' with regard to the literal meanings of phrases. The results of these studies revealed that Japanese TD children at the age of six could judge both linguistic valence and emotional valence as accurately as adults in praise phrases (positive comments spoken with positive prosody) and critic phrases (negative comments spoken with negative prosody). On the other hand, in ironic phrases (positive comments spoken in negative prosody) and jocular (joke) phrases (negative comments spoken in positive prosody), although judgment accuracy increased significantly with age, development of their abilities to understand the speaker's intention in ironic phrases was much slower: the accuracy rates of 12-15 year old Japanese TD children still did not reach the same level of adults when the phrase was uttered in an incongruent manner (Noguchi et.al 2004). In particular, Japanese TD children showed a tendency to rely more heavily on linguistic valence than emotional valence. In other words, younger Japanese TD

⁷⁶According to the study of Kondo and Hayashi (2015:5.6), while five-year-old typically developing children can recognise 'anger' and 'sadness' from voice by the age of five, they confuse 'happiness' and 'surprise'. By seven years old they can distinguish 'happiness' from 'surprise' fairly accurately.

⁷⁷For neurolinguistic studies on mechanisms for inferring the speaker's intention from speech see Honma, Imaizumi, Ozawa, Maruishi and Muranaka (2007), and Homma, Imaizumi, Maruishi and Muranaka (2008).

children had difficulty ignoring literal meaning. Noguchi et.al (2004:274) stated that ‘the ability to understand a speaker's hidden but true intentions by separating and integrating linguistic and emotional valences develops slower than estimated by conventional theory-of-mind tests based on false belief tasks.’ These findings indicate that Japanese adult speakers have already developed mindreading ability when interacting in Japanese during childhood. They also developed the ability to recognise the other’s emotion from voice. Thus, it can be assumed to be possible that adult Japanese speakers would be able to attend to these abilities during the interpretation process of ironic utterances. What remains unknown is how affective prosody interacts with contextual information. A number of studies (Bachorowski 1999; Elfenbein and Ambady 2002a, 2002b; Imaizumi et al. 2008; Noguchi et al. 2004; Pell et al. 2009; Paulmann and Uskul 2014; Paulmann, and Kotz 2009; Scherer 1986, 1997; Scherer and Wallbott 1994; Scherer et al. 2001; Thompson and Balkwill 2006) used phrases that were taken out of context. In listening comprehension, inference is drawn by concurrently accessing information from different sources and integrating it with explicatures derived from the utterance. A question is whether the assumed Japanese speakers’ comprehension abilities in reading tasks would be reinforced or diminished by a heavier processing load than expected in listening tasks. As revealed in a study by Shively et al. (2008), processing demands here are much higher than in offline (reading) comprehension. The performances of Japanese speakers in real-time listening tasks are assumed not to be the same as those in offline reading tasks. Cognitive processing demands in L2 are heavier than those in L1 (Hoover and Dwivedi 1998; Kormos and Sáfár 2008; Poelmans 2003; Randall 2007). As discussed in chapter 4, it is assumed that processing load affects the capacity of working memory specific to the executive control component (Daneman and Merikle 1996; Juffs and Harrington 2011; Linck et al. 2013; Link and Weiss 2015). It would be more difficult than for Japanese speakers to

control processes of search and retrieval of information or/and to combine information from different sources. Such difficulties may predict failure in using contextual or/and non-verbal cues that would lead to ironical interpretations. As discussed in chapter 4, non-native speakers with relatively low listening skill have demonstrated a tendency to rely heavily on the information most recently processed (Taguchi 2002, 2005; Goh 2000). High processing demands might hinder Japanese speakers from integrating information from tone with contextual information, and this in turn might cause overreliance on prosodic cues. The effects of tone of voice on the interpretations of Japanese speakers would then be stronger than effects from other aspects of the context. It is also possible that a difference across two groups would be found with regard to which type of prosodic contour leads to ironic interpretations. While it is assumed that a discrepancy between the context of the story and the proposition literally expressed by the target utterance would guide both Japanese and native speakers towards ironic interpretations, the strength of each type of prosodic contour as a signal of the speaker's intention would not be the same for Japanese and native speakers: native speakers may respond to a particular prosodic contour more strongly and quickly while processing potentially ironical utterances than Japanese speakers, and vice versa. Because of cultural differences (Japanese vs. British) or/and linguistic difference (Japanese vs. English) the same prosodic contour might affect differently. Japanese speakers' response trends in preference for potentially ironical interpretations may not be the same as those of native speakers. Both tone of voice and context would be considered when participants as an audience construct a set of assumptions about the speaker's intention. However, given the discussion above, Japanese speakers may have difficulties eliminating an assumption based on information from the speaker's tone when it contradicts an assumption based on contextual information. On the other hand, native speakers would not be so strongly affected by potentially contradictory assumptions and

manage to strengthen a particular assumption based on the context. Therefore, experiment 2 should provide evidence relevant to RQ2 (to what extent does the interaction of tone of voice with context guide Japanese speakers to potentially ironic interpretations in the same way as native speakers?). The present study hypothesised for RQ2 that, depending on how tone interacts with context, a different tendency towards potentially ironical interpretation would be found between Japanese speakers and native speakers.

5.3 Experiment 1: Internet survey

5.3.1 *Methods*

Participants.

A hundred and six participants accessed the link to the survey on the Internet, and 75 of them completed all conditions of this experiment, including 53 Japanese speakers (JP-participants) and 22 native speakers (NS-participants). The 53 JP-participants (14 males, 39 females) between the ages of 18 and 54 years held Japanese nationality. They had been recruited from advertisements circulated on social networking systems such as Facebook and by email. The majority of them (75.5 %) were professional and the rest were either students (13.2%) or unemployed (11.3%) at the time of taking part in the survey. The ages of NS-participants (5 were males and 17 females) ranged from 18 to 64 years. Everyone speak English as a first language but their nationality varied (British = 17, American = 1, Jamaican = 1, Turkish = 1, Japanese = 2).⁷⁸ The majority of NS-participants were undergraduate students at Middlesex University who voluntarily took part. The rest of them were recruited from advertisements circulated on social networking systems such as Facebook and by e-mail.

Materials.

⁷⁸ Due to the nature of this survey (distributed on the Internet), a sample of NSs was not specific to native speakers of British English. When native speakers of English were specific to British English, it is mentioned as BNSs distinguishing from NSs.

The Internet survey consisted of two questionnaires: a ‘background information questionnaire and an ‘irony-understanding questionnaire’.⁷⁹

Background information questionnaire:

All participants were asked to provide background information about ‘gender,’ ‘age,’ ‘nationality,’ ‘occupation’ and ‘first language.’ The participants whose first language was not English were asked to provide additional information about language proficiency (self-assessment of language proficiency, results of official English proficiency tests, and how they had studied English as second/foreign language), the country they were living at the time of the survey, experiences of studying/living in English speaking countries and the time (the length) spent in those countries.

Irony-understanding questionnaire:

Twenty items were created based on examples of verbal irony introduced in the literature, actual conversation from radio shows, newspaper articles and TV programmes. Native speakers of English voluntarily proofread all the items to evaluate the extent to which each item sounded natural to them. Some alterations were made based on their feedback. Each item included a short story describing an interaction between two people (ranging from 48 - 57 words in length), and the target utterance that expressed the speaker’s attitude (ranging from 3 - 13 words in length). The target utterance in the same context was manipulated at two levels: a ‘*tacit remark*’ or an ‘*explicit remark*.’ The speaker’s attitude was expressed implicitly in a ‘*tacit remark*’ whereas it was expressed directly in an ‘*explicit remark*.’ A ‘*tacit remark*’ created a discrepancy between the context and the proposition literally expressed by the target utterance and so potentially led to an ironical interpretation. A ‘*tacit remark*’ and an ‘*explicit remark*’ were balanced in the word length as much as possible. All participants

⁷⁹ The details of the two questionnaires are provided in Appendix A (background information questionnaire) and Appendix B (irony-understanding questionnaire).

completed 20 trials. In the 20 trials the number of each type of remark was counterbalanced (10 trials with a ‘*tacit remark*’ and 10 trials with an ‘*explicit remark*’). Participants were not given both types of remark in the same story. In this manner, potential response biases were avoided. One of the items is presented below.

Sample of the test item and task questions in Internet survey

[mobile phone]

Peter heard someone’s mobile phone ringing while he was studying in the library. A girl sitting next to him answered and started chatting loudly. Peter shushed her, but she kept talking. Five minutes later, she was still chatting. Unable to put up with her, Peter screamed piercingly and went quiet. He turned to her and said,

Tacit remark:

‘I am so sorry. I do hope I didn’t disturb you.’

Explicit remark:

‘You’re not allowed to use your mobile phone in the library.’

	not at all	not so much	some	quite a lot	very much
To what extent do you think the girl’s chatting was disturbing other people in the library?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you think Peter was annoyed with the girl’s chatting over the mobile phone?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you think Peter meant what he said?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Design.

An independent measures design was used. The Internet survey was not designed to test JP-participants’ accuracy rate in interpreting a target utterance compared with NS-participants. Instead, it was designed to look into irony-level ratings of given utterances, investigating the extent to which irony ratings of JP-participants were similar to those of NS-participants. The Internet survey was also designed to provide evidence about whether or not JP-participants’ individual differences in background features had any influence on irony-level ratings. Note that it was not designed to test the hypotheses that higher language proficiency, experience of studying or living in English countries, or longer length of stay in those countries predicts higher accuracy in understanding ironical utterances. Irony-level ratings were measured with regard to participants’

agreement with a statement in the task question. A Likert Scale was used to indicate agreement. The scale included five ordered categories consisting of: 'not at all,' 'not so much,' 'some,' 'quite a lot,' and 'very much.' The rationale for using a Likert Scale over other types of measurements was that a Likert Scale might elicit data about participants' perception of the speaker's attitude, feelings or beliefs (Field and Hole 2003; Kasper and Rose 2002), and it might give participants more scope to indicate their varying degrees of agreement on a scale.

Each trial included three task questions. The first task question, a '*context question*', was designed to measure to what degree the participants remembered the context of the story. The second task question, an '*attitude question*', was designed to measure to what degree the participants took the speaker's attitude/emotion as dissociative or sincere. The last task question, a '*dissociation/commitment question*', was designed to measure to what degree the participants estimated that the speaker was dissociating herself from or committing herself to her remark, in other words, it was taken to indicate to what extent participants took the speaker's intention as ironical or non-ironical. Participants were asked to indicate their degree of agreement to the statement described in each task question.

Originally the Internet survey was designed with repeated measures. With each of the 20 items ending with either a '*tacit remark*' or an '*explicit remark*', there were 40 stimuli. Two sets of materials, material A and material B were created so that the target utterance in each set was symmetrical: if one story ended with a '*tacit remark*' in material A, the same story ended with an '*explicit remark*' in material B. This was designed to compare rating scores between two conditions ('*tacit remark*' and '*explicit remark*') in the same story as within-subject variables, and to compare the results of JP-participants with those of NS-participants in order to see to what extent there were similarities. Participants were assigned to either one set of material or the other

depending on their response to a neutral question asked at the end of the *Background information questionnaires*: ‘which computer operating system (OS) are you using to complete this survey, Windows or MAC?’ Participants were not told the nature of this question. However, it turned out that the number of participants assigned to both materials was not counterbalanced. None of the NS-participants were assigned to material B. This forced me to change the experimental design to use independent measures in which the data of each group (JP-participants and NS-participants) were compared on irony-level ratings. The data of 10 JP-participants who were assigned to material B were excluded from further analysis.

Procedures.

The Internet survey was distributed on the Internet using an online service (‘SurveyMonkey’: <http://www.surveymonkey.com/>) between October 2010 and April 2011. This on-line service enables users to create their own web-based surveys, to distribute them on the Internet, and to collect data. An individual web address was given to each survey created on this service.

On accessing to this web address, the website software first presented information about the study itself. Participants were informed that they could withdraw at any time without any negative consequences. Unless participants consented, the survey system did not move forward. After answering the basic questions about their background (‘gender,’ ‘age,’ ‘nationality,’ ‘occupation’ and ‘first language’), depending on their first language, participants were either moved forward to the *Irony-understanding questionnaire* (native speakers of English) or they were asked to provide additional background information (non-native speakers of English). Before the *Irony-understanding questionnaire* started, participants were informed about what they were being asked to do, how many trials they would have and how many task questions they were asked to respond to in each trial. When they were ready (indicated by clicking the

'NEXT' button on the screen), the *Irony-understanding questionnaire* automatically started. The survey system did not move forward unless they answered three questions in one trial. Participants were allowed to spend as long as they needed to complete the survey. The site of the survey was not automatically closed or refreshed. At the end of the survey, they were asked whether they were willing to take part in future experiments and to leave their contact if they wished.

5.3.2 Data analysis

Unless indicated otherwise, the results of the data analysis reported below are based on the data of 43 JP-participants and 22 NS-participants who were assigned to material A.

Background information questionnaire:

Background information of JP-participants was summarised question by question.

Information specific to their language proficiency, the country where they were living at the time of responding to the survey, experience of study/living in English speaking countries was used for further analysis. The language proficiency of JP-participants in this experiment was assessed based on their scores in official English language tests (i.e. IELTS, TOEIC, TOEFL, and Cambridge test) acknowledged by the Common European Framework of Reference for Languages (CEFR). CEFR sets three different groups with six proficiency levels: 'basic user group' including A1 (Beginner level) and A2 (Elementary level), 'independent user group' including B1 (Intermediate level) and B2 (Upper Intermediate level), and 'proficient user group' including C1 (Advanced level) and C2 (Proficiency level). CEFR proposes the description of what learners of each level are expected to be able to do using four skills (reading, listening, speaking, and writing). The detailed description is available on the website of CEFR

(http://www.coe.int/t/dg4/linguistic/CADRE1_EN.asp). If JP-participants had never taken any official English Proficiency levels, their proficiency levels were assessed based on their self-assessment of four skills. Each level was replaced with numerals for

data analysis: '1' for 'A1 Beginner,' '2' for 'A2 Elementary,' '3' for 'B1 Intermediate,' '4' for 'B2 Upper Intermediate,' '5' for 'C1 Advanced,' '6' for 'C2 Proficiency.'

Likewise, the length of study/living in UK or/and other English speaking countries was also replaced with numerals: '1' for 'less than a year,' '2' for 'one year to less than three years,' '3' for 'three years to less than five years,' '4' for 'five years to less than seven years,' '5' for 'seven years to less than 10 years,' '6' for 'over 10 years'.

Irony-understanding questionnaire:

Data was analysed on version 21 of *IBM SPSS Statistics* (henceforth, SPSS). Responses from five ordered categories, i.e. 'not at all,' 'not so much,' 'some,' 'quite a lot,' and 'very much' were replaced with numerical ranks from '1' to '5' respectively. Four categories except for 'not at all' were considered to indicate that participants agreed to some extent with the statement described in the task question. Although the statements of all the task questions under both conditions were manipulated so that responses of participants would lean towards higher-range ratings ('quite a lot,' 'very much'), there were some statements where the responses leaned towards lower-range ratings ('not at all,' 'not so much') because of the wording of the questions. In such cases the rank order was reversed; 'not at all,' 'not so much,' 'some,' 'quite a lot,' and 'very much' with a rank of 5, a rank of 4, a rank of 3, a rank of 2 and a rank of 1 respectively.

Prior to the statistical analysis, significant tests were conducted to check underlying assumptions. Data distributions showed values of both the skewness (tacit remarks = -.718, explicit remarks = -1.066) and the kurtosis (tacit remarks = .382, explicit remarks = 1.943) deviated from zero.⁸⁰ Tests of significance of skew and kurtosis revealed that the *z*-score of skewness is 2.42 on tacit remarks ($p < .05$) and 3.59 on explicit remarks ($p < .01$). The kurtosis *z*-scores are .65 on tacit remarks (*ns*) and 3.32 on explicit

⁸⁰ Note that SPSS uses methods that give values of zero in a normal distribution (Field 2013:182).

remarks ($p < .01$). The Kolmogorov-Smirnov test and the Shapiro-Wilk test were conducted to check the assumption of normality. Distributions of the data of JP-participants on both tacit remarks and explicit remarks were found to be abnormal: rating scores on tacit remarks $D(43) = .936, p = .019$, and those on explicit remarks, $D(43) = .944, p = .035$. Those of native speakers were found to be normal. On the other hand, the results of Levene's test revealed that the assumption of homogeneity was met. Those significant test results were taken into account together with the fact that the nature of the Internet survey meant that the dependent variable was measured on an ordinal scale (ranks) and the sample obtained was relatively small. Given all of these aspects, I decided that non-parametric tests rather than data transformation were more appropriate for statistical analyses.

Data was analysed by conducting the Mann-Whitney test to compare the data of JP-participants with those of NS-participants. First, the ratings of three questions were analysed in overall terms. Then, the ratings were analysed task question by task question and trial by trial. The Kruskal-Wallis test was conducted to compare irony ratings of 10 tacit-remark-examples with each other. The influence of individual background aspects (i.e. language proficiency and the time spent in those countries) on irony-level ratings was examined by using Spearman's correlation coefficient. The Kruskal-Wallis test was conducted to assess the influence of the country of JP-participants' residence (at the time of participating in the survey). Since this survey did not look into the mere exposure effect of difference in the country of residence (living in the UK or the other countries), pairwise comparison instead of the Jonckheere-Terpstra test was conducted as follow-up analysis. The adjusted p -value was applied to pairwise comparison to avoid type I error.

5.3.3 Results

Background information questionnaire:

It was revealed that the language proficiency of JP-participants was relatively high, and more than half of them had been or were exposed to British English culture and contexts. The average of language proficiency was between Upper Intermediate (B2) and Advanced (C1). There was no basic user (A1, A2) in the JP-participants. The details are presented in Figure 5.1.

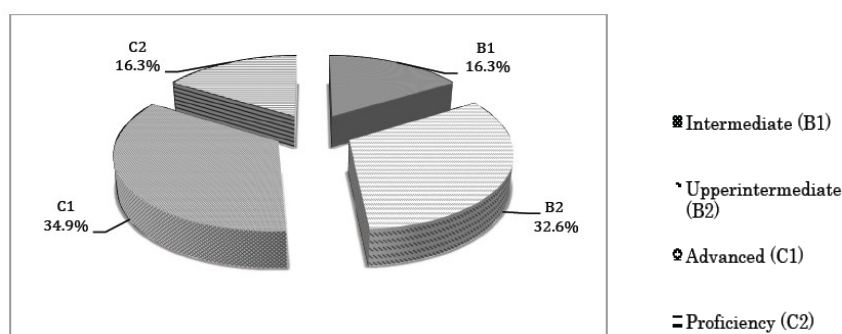


Figure 5.1: Language proficiency level of JP-participants

Figure 5.2 shows that only three JP-participants had never had any experience of living in English speaking countries before. 18 JP-participants were living in the UK at the time of taking part in the Internet survey, and Figure 5.3 illustrates how long those JP-participants had been living in the UK. The majority of them (83.3%) had been living in the UK for longer than 5 years. Twenty-two JP-participants had lived before or were living in English speaking countries at the time of answering the survey: the UK ($n = 9$),⁸¹ Ireland ($n = 2$), the US ($n = 8$) Canada ($n = 2$), New Zealand ($n = 1$), Singapore ($n = 1$), Malaysia ($n = 1$), the Philippines ($n = 1$) and India ($n = 1$).⁸² Figure 5.4 illustrates the time spent (the length) spent in those countries. The average length was longer than 3 years.

⁸¹ This includes the number of JP-participants who had lived in the UK before the time of participating in 'Internet survey'.

⁸² Some of them had had lived in more than one country.

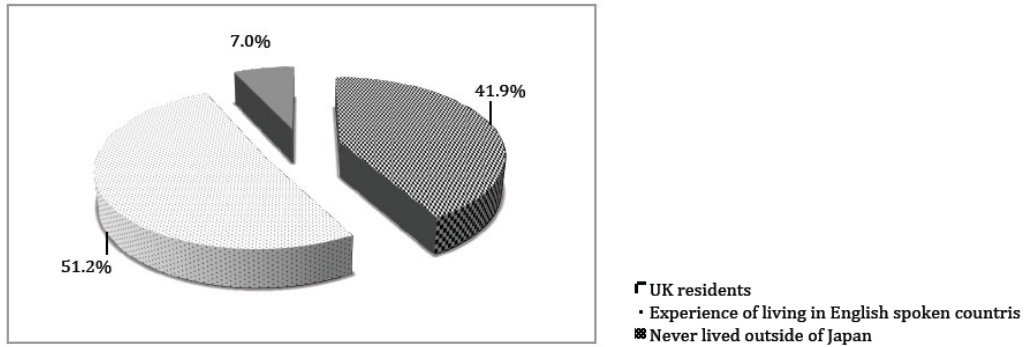


Figure 5.2: Experience of living in English speaking countries

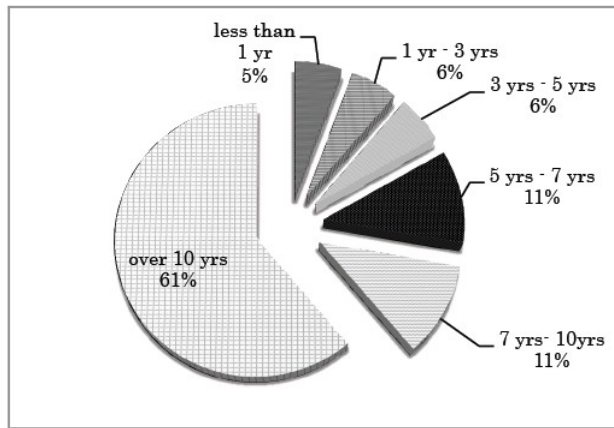


Figure 5.3: Length of stay in UK

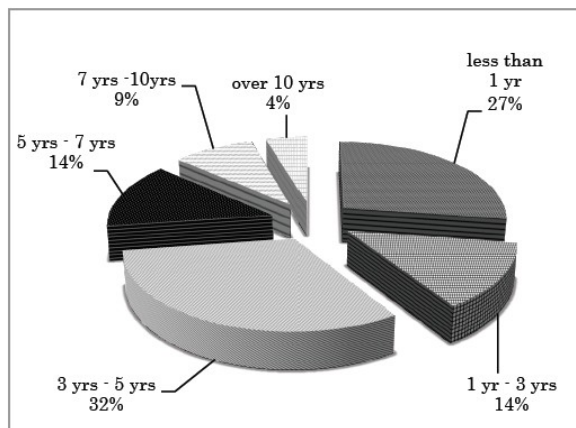


Figure 5.4: The time spent in English speaking countries

Irony-understanding questionnaire:

- Irony-level ratings

Only the data analyses of responses to tacit remarks are reported below unless the results of responses to explicit remarks indicated different tendencies between JP-participants and NS-participants. Table 5.1 shows descriptive statistics of ratings of both sample groups and significance value between groups.

Table 5.1: Descriptive statistics of ratings

Measures	JP-participants				NS-participants				<i>P</i>
	Median	Range	Max	Min	Median	Range	Max	Min	
total of 3 questions	134.00	48	149	101	129.50	37	143	106	.117
'contents' question	47.00	13	50	37	47.00	8	49	41	.534
'attitude' question	47.00	19	50	31	45.00	13	48	35	<u>< .05</u>
'dissociation' question	42.00	30	50	20	40.50	25	49	24	.169

The Mann-Whitney test was conducted on responses to three task questions in the total.

The results revealed that JP-participants' ratings (*Mdn* = 134.0) did not differ significantly from those of NS-participants (*Mdn* = 129.5), $U = 586.00$, $z = 1.57$, $p = .117$, $r = .19$. The results of task question-by-task question analysis revealed that JP-participants' ratings of 'attitude' questions (*Mdn* = 47.0) were statistically different from those of NS-participants (*Mdn* = 45.0), $U = 623.00$, $z = 2.10$, $p < .05$, $r = .26$.

Comparisons of mean ranks between JP-participants and NS-participants (Table 5.2) revealed that JP-participants' ratings of both 'attitude' and 'dissociation/commitment' questions in tacit remarks were higher than NS-participants indicating that their agreement ratings converged on higher-range categories.

Table 5.2: Comparison of mean rank

tacit remarks	JP-	NS-
	participants	participants
total of 3 questions	35.63	27.86
'contents' question	34.03	30.98
'attitude' question	36.49	26.18
'dissociation' question	35.30	28.50

To break down significant differences, the data were analysed trial by trial. Table 5.3 shows significant values of each trial by task question. The first task, the 'context' question, was designed to test how fully participants remember the story. Although differences in ratings of 'context' questions did not yield significant values in 10 trials, a statistical difference between two groups was found in three trials of tacit remarks:

[world cup], [one of those day] and [tennis match]. As Figure 5.5 shows, differences in those trials seem to lie in the proportion of the ‘quite a lot’ category and the ‘very much’ category. However, given that frequency distributions of both groups in each trial converged on higher-range categories ‘quite a lot’ and ‘very much,’ statistical differences found in these three trials do not indicate that JP-participants and NS-participants understood the story differently.

Table 5.3: Significant values* of each trial by task question

condition	trial	‘context’ task	‘attitude’ task	‘dissociation /commitment’ task
tacit	SHOP ASSISTANT	<i>ns</i>	.043	<i>ns</i>
tacit	BEIGN LATE	<i>ns</i>	<i>ns</i>	<i>ns</i>
tacit	DRUNK CUSTOMER	<i>ns</i>	.050	<i>ns</i>
tacit	WORLD CUP	.026	<i>ns</i>	<i>ns</i>
tacit	ONE OF THOSE DAYS	.032	<i>ns</i>	<i>ns</i>
tacit	OLD DRUNK MAN	<i>ns</i>	<i>ns</i>	<i>ns</i>
tacit	NEW FILM	<i>ns</i>	<i>ns</i>	<i>ns</i>
tacit	MOBILE PHONE	<i>ns</i>	<i>ns</i>	<i>ns</i>
tacit	TENNIS MATCH	.032	<i>ns</i>	<i>ns</i>
tacit	COLD NIGHT	<i>ns</i>	<i>ns</i>	.029

* Asymptotic significances (2-sided test) are displayed. The significant level is .05.

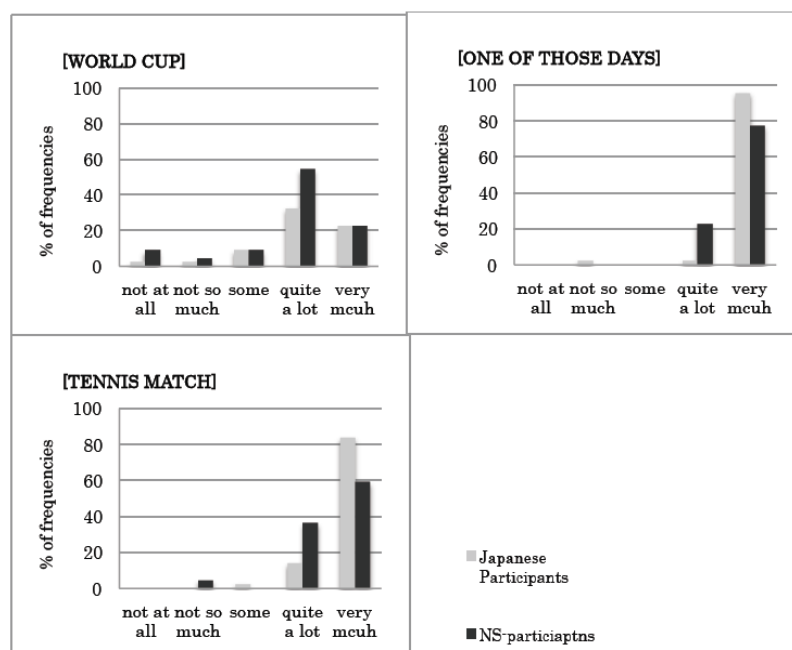


Figure 5.5: Comparison of frequencies of the trial where a significant difference was found in ‘context’ question

The second task, the ‘attitude’ question, was designed to test how participants understand the speaker’s attitude. This is the task where JP-participants’ ratings were found to be significantly different from those of BNS-participants. The result of trial-by-trial analysis revealed that a difference between two groups was significant in two trials [shop assistant] and [drunk customer]. Below are the details of the [shop assistant] trial:

[shop assistant : tacit remark : ‘attitude’ task question]

Erica remembered she had to get some food for tomorrow morning. She ran to her local supermarket as fast as possible. When she got there, it was just before closing time, but the shop assistant refused to let her come in. When she came back empty-handed, she said to her husband,

‘The shop assistant very helpfully shut the door right in my face.’

To what extent do you think Erica was annoyed?

not at all	not so much	some	quite a lot	very much
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The result of this trial showed that ratings of JP-participants ($Mdn = 5.00$) were significantly different from those of NS-participants ($Mdn = 4.00$) $U = 596.00$, $z = 2.02$, $p < .05$, $r = .25$ (Table 5.3). The plot on the left in Figure 5.6 displays a comparison of distributions of both groups in this trial. As shown, NS-participants opted for ‘very much’ and ‘quite a lot’ equally (45.5% each), whereas frequency of JP-participants converged on ‘very much’ (74.4 %) rather than ‘quite a lot’ (16.3%), the results indicate that JP-participants agreed more strongly with the statement that the speaker was annoyed. However, even though the difference in the proportion of the ‘very much’ category, over 90 % of participants in both groups took the speaker’s attitude expressed by a positive comment as negative. The results also revealed that no significant difference was found in ‘dissociation/commitment’ question in this trial. Thus, this statistical difference does not seem to suggest that JP-participants understood the speaker’s attitude differently from NS-participants.

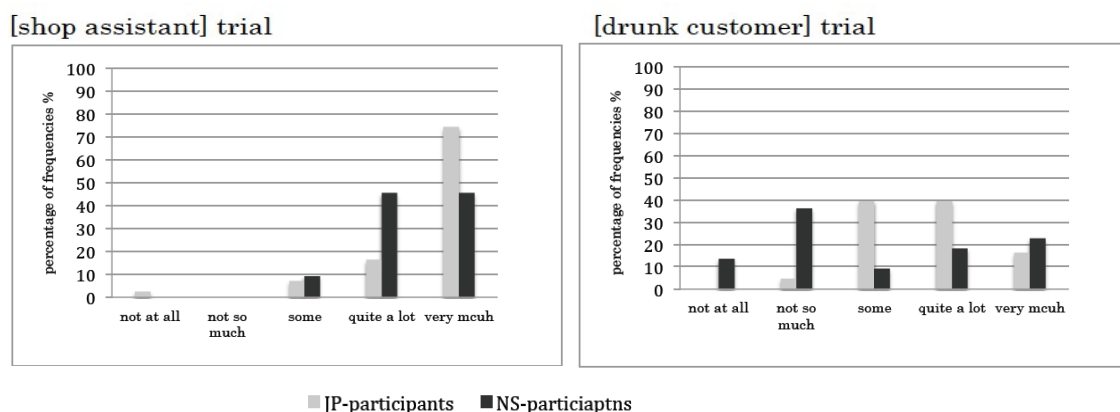


Figure 5.6: Comparison of frequencies of the trial where a significant difference was found in 'attitude' question

A significant difference in 'attitude' question was also found in the trial of [drunk customer]. Ratings of JP-participants ($Mdn = 4.00$) and those of NS-participants ($Mdn = 2.50$) were also found significantly different, $U=609.50$, $z = 1.96$, $p = .05$, $r = .24$. The details of the trial are shown below:

[drunk customer: tacit remark: 'attitude' question]

Alice and Richard were working in a local supermarket. A man came in and started complaining loudly about some broken eggs he had bought in the shop earlier. He shouted at Alice in front of some other customers, stamping his foot and shaking his fist. When he had finally gone, Alice said to Richard,

'He looks a bit upset.'

To what extent do you think Alice was uncomfortable with the man?

not at all not so much some quite a lot very much

Unlike the other trial [shop assistant], the ratings of both sample groups were widely distributed as the right plot in Figure 5.6 shows. Half of the NS-participants rated the statement 'Alice was uncomfortable with the drunk customer' with a low score, whereas almost all the JP-participants (95.3%) rated middle to higher categories. A possible explanation of this result is the quality of the task question. The statement of the task question did not seem to properly describe the speaker's emotional state in the situation where the customer was complaining in an antagonising manner. It was not discomfort but should have been scorn or contempt. It is possible that the ratings of NS-participants

were scattering due to this inappropriate statement. Thus, task difficulties (difficulties with answering a faulty task) might have brought about a statistical difference found in this trial.

The third task, the ‘dissociation/commitment’ question, was designed to test to what extent participants recognise the speaker’s dissociation from her own utterance. Rating in the [cold night] trial was significantly different between two groups. The details are shown below:

[cold night : tacit remark : ‘dissociation/commitment’ task]

One night, Harry and Emma went to the cinema. When they came out, they found the temperature had dropped dramatically. It was freezing cold and snowing heavily. On the way to the tube station, Harry and Emma felt their limbs becoming stiff with cold. When they finally arrived at the station after a long walk, Harry said,

‘It’s a bit chilly tonight.’

	not at all	not so much	some	quite a lot	very much
To what extent do you think Harry meant what he said?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The mean rank of JP-participants (35.86, $N = 43$) was higher than NS-participants (26.18, $N = 22$), which demonstrated that JP-participants ranked higher categories more than NS-participants. The top left plot in Figure 5.7 displays a comparison of frequencies in this trial. As shown, while the distribution of both sample groups was widely spread across all the five categories, a greater number of JP-participants rated higher-range categories than NS-participants. This seems to reflect that NS-participants were not as definitely certain about the speaker’s dissociation as JP-participants were: more NS-participants agreed to some extent with the speaker’s commitment to her utterance than JP-participants. Considering that distributions of both groups were almost the same in the ratings of ‘attitude’ questions in this trial, statistical significance found in the ‘dissociation/commitment’ question does not seem to suggest that JP- participants understood the ironic speaker’s intention in a different way from NS- participants. This trial was one of the examples of ironic understatement in which the speaker normally

means what she said to some extent while also speaking ironically (see section 2.2.2, section 3.5.1). The other two plots in Figure 5.7 display other trials of ironic understatements used: [drunk customer], [old drunk man]. These two trials also demonstrated no statistical difference between JP-participants and NS-participants. Similarly to the [cold night] trial, frequencies of both groups were widely distributed in all the examples. Such a distribution pattern was not found in other trials.

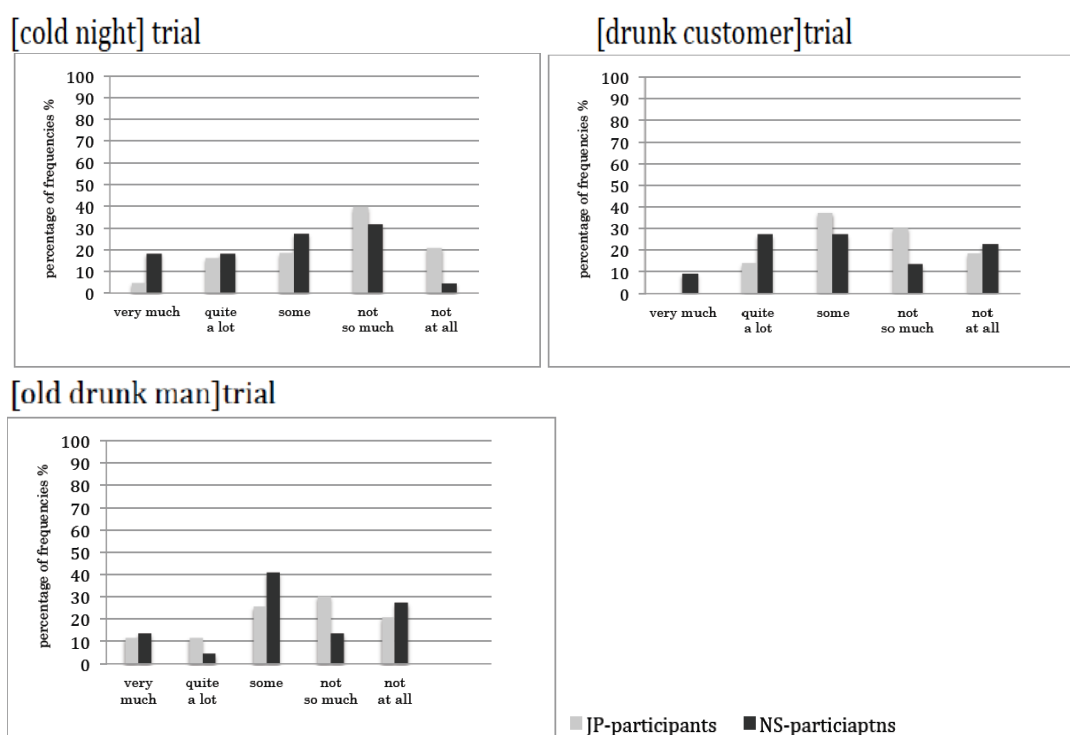


Figure 5.7: Comparison of frequencies in 'dissociative/commitment' question in trials with ironic understatement

The results suggested the possibility that culture-dependent differences might affect JP-participants' responses. A significant difference was found in both 'attitude' questions and 'dissociation/commitment' questions in [dinner table], one of the trials with an explicit remark. The details of this trial are shown below:

[dinner table : explicit remark : 'attitude' and 'dissociation/commitment' task]

Helen invited Andrew to her dinner party. When he arrived at her house, he found a lot of familiar faces there. When Andrew was called to the dinner table, however, Helen introduced the girl he had never met before and asked him if he minded sitting next to her. He said to Helen,

'I'd be happy to.'

	not at all	not so much	some	quite a lot	very much
To what extent do you think Andrew was happy to sit next to the girl?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you think Andrew meant what he said?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The results of the Mann-Whitney test show a significant difference between JP-participants ($Mdn = 3.00$) and NS-participants ($Mdn = 4.00$) was found in rating of 'attitude' question, $U = 311.5$, $z = -2.39$, $p < .05$, $r = -.30$. The results of the 'dissociative/commitment' question also showed that JP-participants ($Mdn = 3.00$) took the speaker as committing himself less strongly to his remark than NS-participants ($Mdn = 4.00$), $U = 289.5$, $z = -2.66$, $p < .05$, $r = -.33$. Effect sizes for both questions were considerable (medium size effect). As the plot on the left in figure 5.8 shows, while nearly 70 % of NS-participants took the speaker as expressing his happiness sincerely, only 40 % of JP-participants took it as so. On the other hand, more than half of them rated lower categories ('some' 'not so much'). Frequency distribution of the 'dissociative/commitment' question (the plot on the right in Figure 5.8) also showed that 32.6% of JP-participants rated lower responses ('not at all', 'not so much'). No significant difference was found in the 'context' task question, indicating that JP-participants had a fairly good understanding of the context of this item. Given these results, it is hard to assume that statistical significance found in the 'attitude' question and the 'dissociation/commitment' question can be attributed to understanding the context of the story differently from NS-participants.

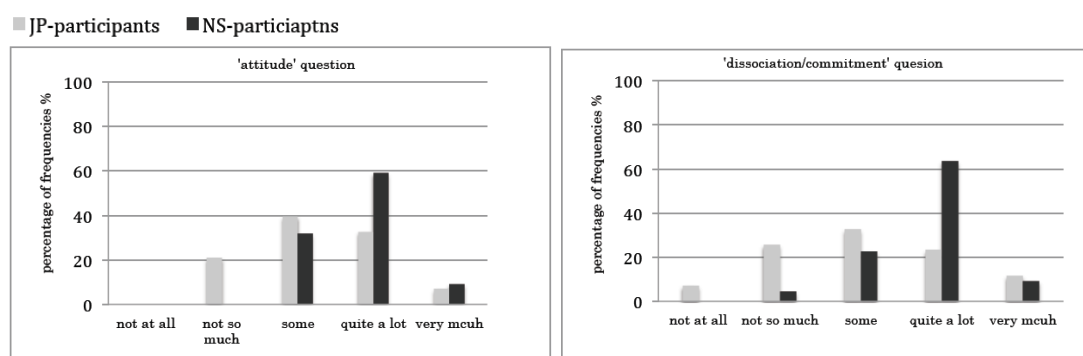


Figure 5.8: Comparison of frequencies in the [dinner table] trial

Although ratings for the ‘dissociative/commitment’ question were lower, this does not indicate that some of the JP-participants took this explicit remark as a mild case of irony. Rather, it seems to reflect virtue or the social decency not to express one’s negative feelings openly, which is respected in Japanese culture. It is not deception or a lie, but politeness. It may be highly likely that they took the speaker’s intent as to please or reassure the host by uttering ‘I’d be happy to’ while hiding the emotion of unhappiness at sitting next to the stranger.

Correlation analysis test (i.e. Spearman’s correlation coefficient) was used to assess the relationship between irony-level ratings and individual background aspects. These aspects were language proficiency and the time (the length) of stay in those countries. Almost of all the non-UK resident JP-participants ($n = 22$) had had experience of studying/living in English speaking countries before. Thus, instead of the influence of previous experience, the influence of the time spent in English speaking countries on irony-level ratings was examined. Bias corrected and accelerated bootstrap 95% CIs are reported in square brackets. JP-participants’ language proficiency was significantly correlated with irony-level ratings of tacit remarks, $r = .329$ [.077, -.651], $p = .012$; but not correlated with those of explicit remarks, $r = .184$ [-.141, .501], $p = .234$. Another aspect, the time (the length) spent in English speaking countries was significantly correlated with both irony-level ratings of tacit remarks, $r = .317$ [.027, .600], $p = .039$ and those of explicit remarks, $r = .441$ [.156, .676], $p = .003$. These results indicated

that language proficiency and/or the time spend are a predictor for the dependent variable.

The influence of the country where JP-participants were living at the time of the survey was also assessed. The data of irony-level ratings were analysed in comparison between NS-participants ($N = 22$), UK resident JP- participants ($n = 18$), and non-UK resident ($n = 25$). It was revealed that the country of residence did not significantly affect ratings of tacit remarks, $H(2) = 3.82$, $p = .148$, but it did significantly affect those in explicit remarks, $H(2) = 6.66$, $p < .05$. Follow-up pairwise comparisons with adjusted p -values (the Kruskal-Wallis test) were performed on ratings of explicit remarks. None of the comparisons among groups revealed a significant difference: comparisons of NS-participants with UK resident JP-participants ($p = 1.00$, $r = .04$), or with non-UK resident JP-participants ($p = .053$, $r = .35$). No difference was found in comparison between UK resident and non-UK resident within JP-participants ($p = .151$, $r = .30$). However, it should be taken into account that both comparison of non-UK resident with either NS-participants and with UK resident yielded medium-sized effect sizes.

5.3.4 Discussion

Experiment 1 concerned reading comprehension abilities. The Internet survey was designed to test a hypothesis relevant to RQ1 (to what extent Japanese speakers understand the ironical speaker's intention when a stimulus is presented in texts) that Japanese speakers would understand the attitude that the ironic speaker intended to express in a similar way to native speakers. It was also hypothesised that a difference would be found in the case of examples of ironical understatement. This hypothesis was partially confirmed. Statistical differences were found in particular task questions of some trials. However, a direction of ratings was found the same (higher-rank categories) between two groups. It seems hard to suggest that JP-participants understood ironical utterances in a different way to NS-participants. The results of Experiment 1 suggest

that JP-participants responded to implicitly expressed speaker's attitude in similar ways to NS-participants, including in the case of ironical understatements, and that JP-participants understood that the speaker attributed her utterance to others. Experiment 1 provided evidence that contradicts the suggestion made by previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996,1999) that non-native speakers always have difficulties with understanding of irony in L2. The results indicate that Japanese speakers understood the speaker's dissociative attitude and that Japanese speakers also understood that the speaker attributed the thought represented in her utterance to others in a similar fashion to native speakers. However, refuting the assumption that non-native speakers have difficulties with understanding irony does not confirm that non-native speakers and native speakers understand the ironic speaker's attitude in the same way. Critics may point out the possibility of response biases in JP-participants due to the design of the survey. This survey did not include any trials with fillers (distractions). There were only trials of tacit and explicit remarks. In addition, this survey was a self-paced reading test allowing participants to take as much time as they wanted. It did not require a prompt response. It may be possible that participants had become aware of the purpose of the testing towards the end of the survey. This should be borne in mind.

The results of the Internet survey showed no significant difference between JP-participants and NS-participants in irony-level ratings in overall terms. From the results of ratings in the 'contents' questions it was clear that JP-participants' understood the context of the story in each trial. At the same time, it is evident from frequency distributions of their responses to the 'dissociation/commitment' question that JP-participants did not take the target utterance literally. This seems to suggest that discrepancy between the context of the story and the proposition expressed in a target utterance helped Japanese participants to understand the speaker's intended meaning.

The responses of JP-participants to the ‘attitude’ questions in overall terms were statistically different from those of NS-participants. The analysis of each trial also revealed a statistical difference between participant-groups in the two trials. However, a significant difference observed should be interpreted cautiously. As reported, patterns of distributions of the two groups were very similar. Each group’s frequency distribution showed a difference in the proportion of frequency between the ‘quite a lot’ category and the ‘very much’ category. Given that ratings of both participant-groups converged on higher-rank categories, it can be interpreted that differences between participant-groups are superficial and not definitive enough to conclude that Japanese speakers understood ironical utterances in a different way from native speakers. That rating of both participant-groups shows the same direction rather draws attention to underlying similarities between the two sample groups. The finding that Japanese speakers’ ratings converged on higher categories than those of native speakers may indicate that Japanese speakers have a tendency to interpret potentially ironical utterances in a more clear-cut way (as either ironic or not) compared to native speakers. It was interesting that the opposite pattern in mean ranks occurred in responses to explicit remarks: JP-participants’ mean ranks in explicit remarks were lower than those of NS-participants. There are at least two possibilities that could account for this result. First, it could be that the speaker’s attitude tacitly expressed is taken as more negative than the one expressed explicitly for JP-participants whereas it is the opposite for NS-participants. However, it was not possible to compare the mean scores between tacit remark conditions and elicit remark conditions in the same trials using repeated-measures since there were no data from the material B group to compare with. Thus, it does not seem safe to draw any conclusion either way from those analyses alone. Another possible explanation is that Japanese speakers might have felt subconsciously under pressure to answer ‘correctly’ despite the fact that they were told that there was no correct or wrong

answer and that this was not a test to assess their language proficiency. One might argue that statistically significant differences between the two participant-groups may stem from culture-dependent difference. The present study, however, does not make it possible to decide either way conclusively. Even if this was indeed so, it is difficult to suggest any systematic explanations.

Contrary to predictions, the results provided no evidence of a difference between JP-participants and NS-participants in trials with examples of ironic understatement. A key feature of typical ironic understatements is that they are not false but true. Taking the speaker to commit herself to her utterance is ‘ludicrously’ inadequate in ironic understatement because of its blatant irrelevance if she was taken at face value (Wilson and Sperber 2012). Therefore, it is expected that responses to a ‘dissociation/commitment’ question would not be as straightforward as for other types of irony. Participant confusion was evident from widely spread ratings in those trials with ironic understatements. For instance, in the trial [cold night], it is inadequate to take literally a comment that ‘it’s a bit chilly tonight’ on a freezing cold night with a blizzard. However, this inadequacy does not indicate that the proposition literally expressed by this utterance is false. Also, how cold one feels or/and how one expresses the coldness that one is feeling vary individual by individual. Thus, this proposition could be true to some extent. It is also possible that while some participants think it is ridiculous to describe such coldness as ‘*a bit chilly*,’ others might think that it is only inadequate to express it with the adverb ‘a bit.’ In the trials with examples of ironic understatement, a similar distribution as those of NS-participants was demonstrated in the frequency of JP-participants’ responses, which indicates that the pattern of confusion observed was similar between participant-groups. It seems reasonable to suggest that Japanese participants understand even the case of ironic understatement in a similar way to native speakers. In addition, the widely-spread distribution of NS-

participants confirmed that the responses of NS-participants vary in some cases, confirming that native speakers' responses are not necessarily similar. Furthermore, while overstatements are often used in the Japanese equivalent of irony '*hiniku*,' use of understatements is rarely seen. However, this language-specific characteristic does not seem to affect the interpretation of English irony. On the contrary, the results showed that JP-participants and NS-participants showed a similar understanding of the speaker's attitude in ironic understatements.

Previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek-Dyzman and Ewert 2010, Yamanaka 2003) suggested that a deeper immersion in terms of both quality (exposure) and quantity (length) might strongly correlate with development of the ability to understand irony. The Internet survey showed mixed results of the effects of exposure to the target language culture on irony ratings. First, language proficiency appeared to be a good predictor for JP-participants' irony level ratings. While the country of residence did not seem to influence irony level ratings, the time (the length) spent in English speaking countries turned out to be significantly related to irony-level ratings of tacit remarks, which has supported the suggestion of previous studies. However, this result needs to be considered with caution. The result that this background aspect (the time spent in English speaking countries) is also correlated with responses to explicit remarks should not be overlooked. This indicates that the time spent in English speaking countries simply facilitates general English language level. From only these results, it cannot be said for certain that the longer immersion the better understanding of potentially ironical utterances.

In sum, findings of the Internet survey provided evidence against the suggestion of previous studies that non-native speakers arrive at English ironical interpretation far less

often than native speakers. JP-participants understood ironic utterances in a similar way to NS-participants.

5.4 Developing the experimental design

This section the experimental design of Experiment 2 has been developed. First, it reports a pilot study in which a preliminary method was applied to a testing. Then, it discusses what was suggested from a pilot study and what should be taken into considerations for development of the method (section 5.4.2). It discusses how independent variables and an initial test had been designed (section 5.4.2).

5.4.1 Pilot study

A pilot study was conducted to test to what extent recognition of the speaker's tone of voice could be useful as a variable to investigate similarities in response trends in understanding of irony between Japanese speakers and native speakers.

Eight JP-participants (age: between 22 and 54; sex: 2 males, 6 females) and 16 native speakers of English (age: between 18 and 24; sex: 2 males, 14 females) voluntarily participated in the pilot study. JP-participants had lived in the UK for between 7 years and 21 years. Two of them were postgraduate students and the rest were professionals working in London at the time of testing. English language proficiency of JP-participants was considered as advanced based on their self-assessment. NS-participants were first-year students from Psychology Department of Middlesex University. In exchange for participation, they obtained credit that was partial requirements of BA in Psychology. All the NS-participants and JP-participants reported no known hearing impairment or language disorder at the time of testing.

Both a written material ('off-line' testing condition) and an audio material ('pseudo-real-time' testing condition) were used. Sixteen items were created and each item consisted of a short story that ended with the utterance in question (the target

utterance). Independent variables were the context of a story in both the written material tasks and the audio material tasks. In the audio material tasks, another independent variable prosodic pattern of the target utterance was included. The context was manipulated with three levels: it was manipulated in a way that the speaker's meaning of the target utterance would be more likely to be taken either ironically ('ironical' context), or not ironically ('non-ironical' context). A story line of 'neutral' context is manipulated so that the speaker's meaning of the target utterance would not be strongly biased towards one (ironical) or the other way (non-ironical) only from its context, and further information or indication for the speaker's meaning is needed for its interpretation. The prosodic pattern of the target utterance was manipulated with three levels ('default'/'stylised'/'dead-pan'). 'Default' tone of voice was characterised as tone of voice that corresponds to what is likely to accompany the literal meaning. 'Dead-pan' tone and 'stylised' tone were marked prosodic patterns in contrast with a 'default' tone of voice. The audio-material was read aloud by professional actors. They were instructed to narrate stories and to act as a character of the story speaking the target utterance in one of the prosodic patterns. In addition, 'distracter' items were created. The target utterance in 'distracter' stories was spoken in only 'default' tone of voice. Both material tasks included such 'distracter' items in order to minimise the risk of response biases and the likelihood that the participants might notice the aim of the test. One of the examples of trials can be found below.⁸³

Participants were randomly assigned to the 'off-line' testing condition group (with written material) or the 'pseudo-real-time' testing condition group (with auditory material). Tasks were either to listen or to read each item, and to answer a question of whether or not the speaker commits herself to the proposition expressed in a target utterance by choosing 'YES,' 'NO,' or 'I DON'T KNOW.' There were counter-

⁸³ All the scenarios and questions are found in Appendix C.

balanced 12 trials (including 8 distractors) in both types of materials. The ‘off-line’ testing condition group read each story including a target utterance presented on the computer screen. The ‘pseudo-real-time’ testing condition group listened to the recorded material through headphones. Once the test started, the audio material was played without a stop all the way through; a certain period of time was set for each trial (length of time limit varied depending on number of words of the story in length). Participants were given 10 seconds to answer to each question by circling one of three choices on a given response sheet, and the next trial automatically started after 10 seconds. Each trial was played only once. After they completed all the trials, JP-participants were individually invited to an informal chat with the researcher to talk freely in Japanese about how they found the test. Participants were also asked the reason why they had chosen ‘I DON’T KNOW’ in particular trials.

Sample of the test item of pilot study

NB: the underlined parts of the each story indicate how context of the story was manipulated.

[ironical context item]

Mary was going to fly back to New York for her Christmas holiday. Her suitcase was filled with lots of Christmas presents and books that she planned to read during the holiday. When she got to Heathrow Airport, she realised that the lifts to the departure floor were out of order. She had no choice but to take the stairs instead. While she was dragging her heavy suitcase up the crowded stairway, a young guy bumped against her and passed without saying anything. Mary said,

“That was nice.”

Does Mary believe that the young guy's behaviour was nice?

YES / NO / I DON'T KNOW

[non-ironical context item]

Mary was going to fly back to New York for her Christmas holiday. Her suitcase was filled with lots of Christmas presents and books that she planned to read during the holiday. When she got to Heathrow Airport, she realised that the lifts to the departure floor were out of order. She had no choice but to take the stairs instead. While she was dragging her heavy suitcase up the crowded stairway, a young guy offered to help her with her suitcase and brought it up the stairs for her. Mary said,

“That was nice.”

Does Mary believe that the young guy's behaviour was nice?

YES / NO / I DON'T KNOW

[neutral context item]

Peter worked in the customer service centre of a mobile phone company. Because of a recent recession, the company was trying to reduce costs and switch off the central heating system unless the temperature was below zero. There were lots of complaints from staff. As a staff representative, Peter arranged a meeting with managers and several of his colleagues. After the meeting, Peter said to his colleagues,

“That went well.”

Does Peter believe that the meeting went well?

YES / NO / I DON'T KNOW

[distracter item]

One Sunday afternoon, Susie was about to cook dinner for her husband Mark and herself. She hadn't decided what to cook. Looking inside the fridge, she asked Mark, “What do you fancy for dinner?” Mark said,

“Anything will do for me, Susie.”

Does Mark have any preference for dinner?

YES / NO / I DON'T KNOW

The results revealed that while no difference in responses was found between the ‘off-line’ testing condition group and NS- participants, the ‘pseudo-real-time’ testing condition group responded differently to NS-participants. Differences were found when

the target utterance was spoken in default tone in ironical context, was spoken in stylised tone in non-ironical context, and was spoken in deadpan tone in non-ironical context. Below were main comments collected from JP-participants:

- ‘I was confused with the dialogue where the context and the intonation contradicted each other.’
- ‘From the intonation, I thought the speaker was being sarcastic but the context wasn’t, so I chose ‘I don’t know.’
- ‘At first, I thought the speaker was sincere with what she said, but then the intonation made me change my answer...’
- ‘The intonation the speakers used and the context didn’t match!’
- ‘I was annoyed by the intonation!!’

5.4.2 Reflections

Response differences between JP-participants and NS-participants were found under the conditions where prosodic patterns were manipulated against the given contexts. In other words, there was incongruence between a given context and the speaker’s particular attitude with which a given tone is often associated. The responses of NS-participants under those conditions weakly indicated that they chose the answer on the basis of its context. On the other hand, JP-participants chose the ‘I DON’T KNOW’ option under such conditions. It was interesting that their comments in the interview revealed their confusion with the manipulated interaction of tone of voice with the context. The pilot study suggested that recognition of the speaker’s tone of voice might be a useful variable to look into similarities and differences between non-native speakers and native speakers concerning ironical interpretation.

The pilot study has provided informative insights into how the experimental design of Experiment 2 should be developed. One of the basic drawbacks was its assumption that a particular context or a particular type of tone leads to ironical interpretation. The pilot study had presupposed that the speaker’s meaning should be taken as ironic under ‘ironical’ context and when the speaker’s remark was spoken in ‘deadpan’ or ‘exaggerated’ tone. But on further reflection this cannot be taken for granted. What

should be investigated is not whether or not participants are capable of “choosing” presupposed response based on such assumptions. Instead, it should be investigated under which tone by context interaction ironical interpretation is favoured. Another drawback was the way of comparing the data of responses to written material with those to auditory material. It was suggested in the pilot test that comparisons of responses to pseudo-real-time task condition with those of the off-line task condition did not elicit any possibility that heavier processing load might or might not undesirably affect the interpretation process of ironical utterances. The way of setting additional processing loads on task performance needs to be taken into account.

A question was also raised concerning the quality of the materials. First, it concerns the quality of prosodic contours. The auditory material had been tried out on native speakers. They pointed out that some of the recording of a ‘dead-pan’ prosodic pattern sounded too robotic. As discussed in Chapter 2 (section 2.3), the same prosodic pattern (e.g., deadpan tone of voice) could sound slightly different depending on the context. The details of prosodic contours should be more explored. It is suggested that the experimental design should be created in a way that potential biases are cancelled out as much as possible. It was also pointed out that material should be counterbalanced: a) a number of words in a story and a target utterance varied a great deal across trials; b) a number of each condition included in the trials was not counterbalanced either (i.e. three trials of ironical context condition, three trials of non-ironical context and only two trials of neutral context condition). A disadvantage of a rating scale with ‘YES/NO/I DON’T KNOW’ options was also concerning. It is hard to distinguish whether participants chose the option of ‘I DON’T KNOW’ because they were not sure of ‘YES’ or ‘NO,’ or because they simply could not care less to choose either one or the other option. It has been noted that the rating scale with three options made it complicating to interpret results and this, in turn makes results less reliable. Native speakers had also

proofread items of the materials. They pointed out that use of the same names in different stories was confusing. While reading or listening to a story with certain names, participants had a natural tendency to create an idiosyncratic narrative, or a certain assumption about characters even where it is not required. For instance, if “*Mary*” and “*John*” were a wife and a husband in a story, this information may be encapsulated as background knowledge. When they come across the same names again in a different story as a teacher and a student, they cannot help but access the information stored (“*Mary*” and “*John*” as a wife and a husband), which may interfere with new information about characters of the same name.

5.4.3 Developing the experimental design

The method of Experiment 2 has been developed taking the following discussions into account.

Measuring ‘response trends’ in preference for ironical interpretation and processing speed:

The most important is that the present study does presuppose that neither a particular tone of voice nor a particular context relation is robustly associated with ironical interpretation. It does not treat responses of native speakers as ‘correct.’ Therefore, this experiment does not attend to ‘response accuracy.’ Instead, it concerns response trend to see under which condition ironical interpretation is favoured.

Independent variables.

Three independent variables are set up in order to investigate research questions: types of tone of voice (prosodic patterns), types of context relation and degree of echoing (locations of the echoing source). Below discuss how these variables have been established.

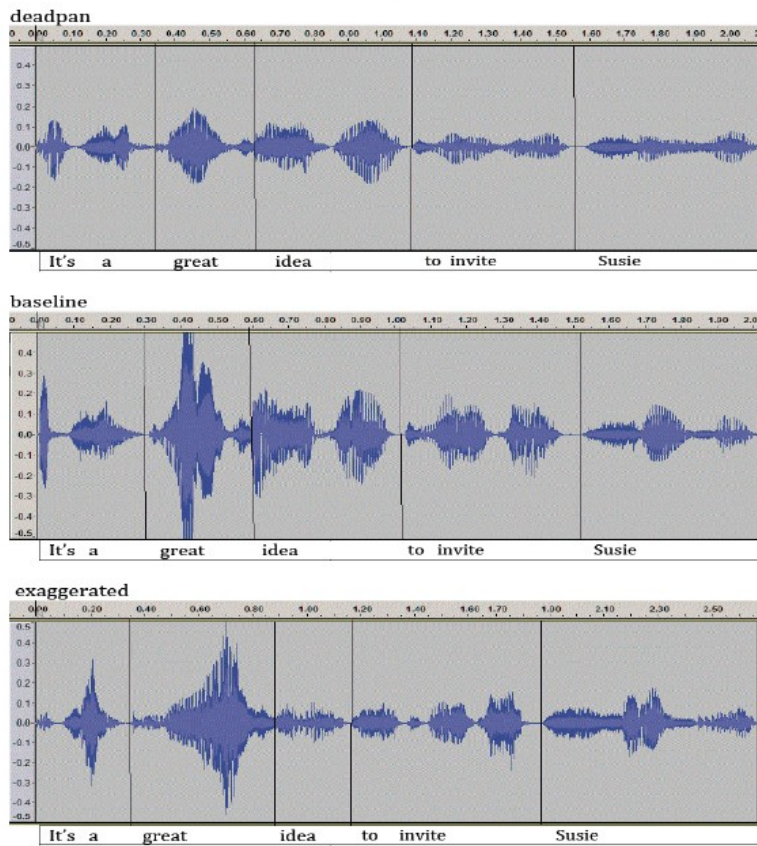
Prosodic patterns: The prosodic pattern for expression of a characteristic attitude may vary depending on the speaker, the context of the utterance and/or what kinds of attitude the speaker intends to express from a range of dissociative attitudes. As discussed in section 2.2.5 Chapter 2, the present study considers that there is no one solid tone of voice that would be associated with all the cases of ironical utterances. The challenge for the present study is then, how it could establish tone of voice that may lead hearers to potentially ironical interpretation. For the purpose of Experiment 2, three prosodic patterns have been established: *'baseline tone,' 'deadpan tone'* and *'exaggerated tone.'* Those types of tone are different in acoustic features that determine prosodic contours distinctively from each other. First, *'baseline tone'* has been established. *'Baseline tone'* is what might be thought of as tone of voice that is often used in a context where the speaker commits herself to her utterance. Two other types of tone in which the same target utterance is spoken have been established such a way that their acoustic features such as pitch, intensity (loudness), duration (length), and tempo (speed) deviate from those of *'baseline tone.'* In comparison with *'baseline tone'*, *'deadpan tone'* is a flat tone with narrow pitch range: a particular syllable is pitched at a certain level and subsequent syllables do not fluctuate. No special emphasis on any words so that utterance is spoken with a pitch that rather stays at a flat level. It has the least intensity. On the other hand, *'exaggerated tone'* has wider pitch range than *'baseline tone'*: a particular syllable is pitched at a certain level and subsequent syllables fluctuate up and down heavily. A stretch of speech is rather loud and tempo is slower than *'baseline tone.'* The images of waveform⁸⁴ in Table 5.7 and Table 5.8 show a visual representation of each tone used as independent variable in Experiment 2. Table 5.7 highlights a difference in pitch variation and intensity (loudness) whereas Table 5.8 highlights a difference in duration (length) and tempo (speed) between the three types of

⁸⁴ These images were taken from audio tracks data of recorded on *'Audacity version 2.0.2.'*

tone. The vertical scale on the left displays amplitude, which is the level or magnitude of a signal. When the top and bottom of the waveform are closer to ± 1 , the audio is louder, on the other hand, when they are closer to the centre (a zero line), the sound is quieter.

Table 5.4: Comparison of pitch variation and intensity (loudness)

Waveform of the utterance "It's a great idea to invite Susie."



Waveform of the utterance "He's right on time."

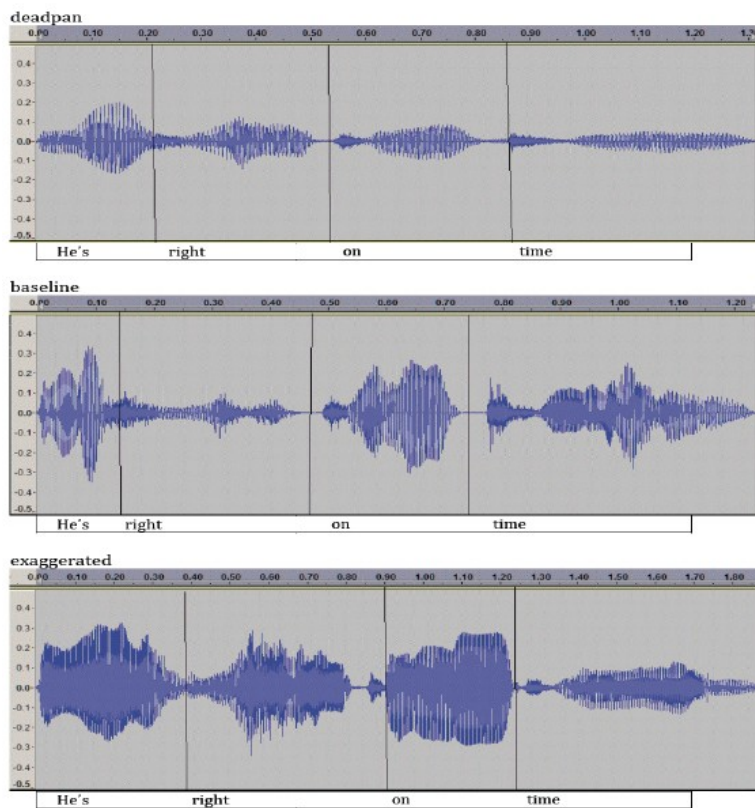
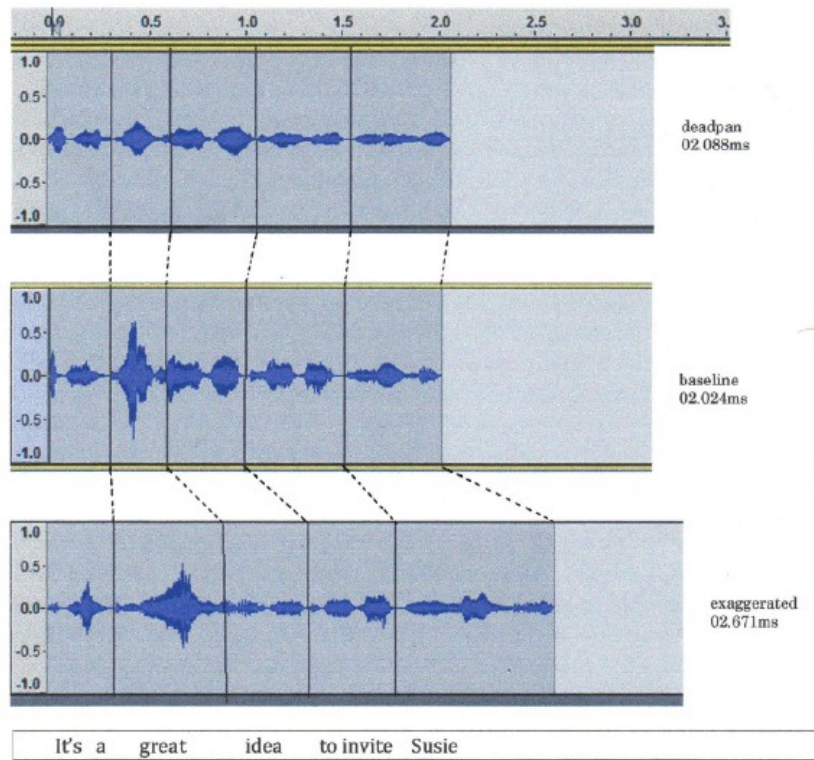
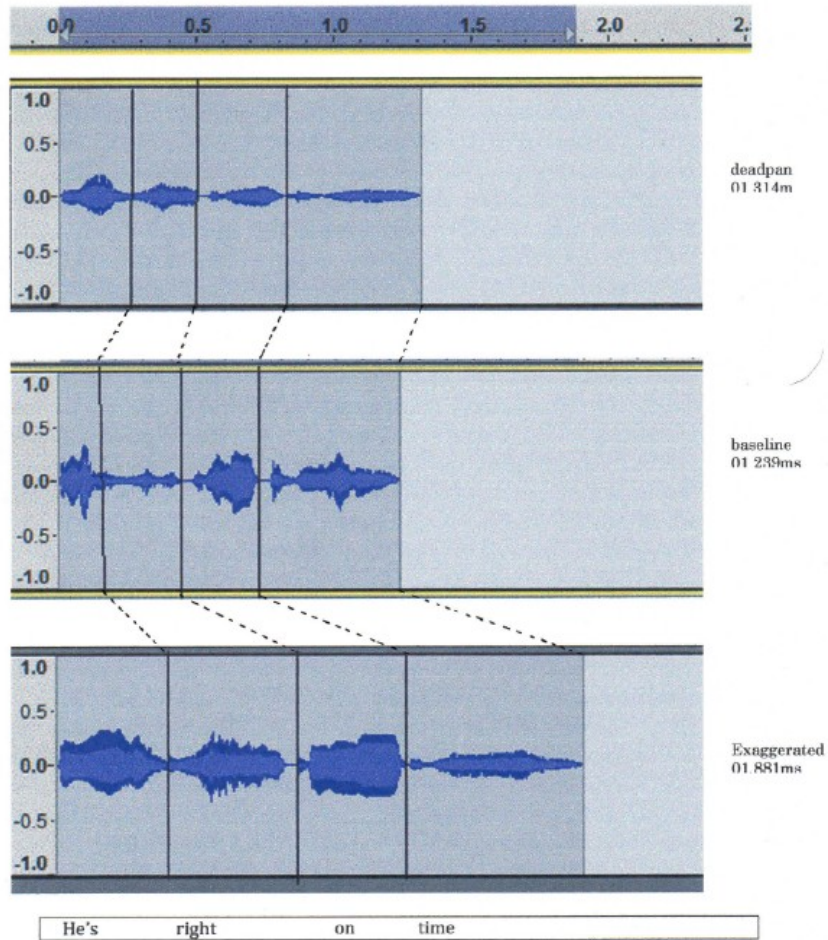


Table 5.5: Comparison of duration (length) and tempo (speed)

Waveform of the utterance "It's a great idea to invite Susie."



Waveform of the utterance "He's right on time."



Types of context relation: The relation between the context of a story and the proposition literally expressed in a target utterance is manipulated at three levels. In an ‘inconsistent context’ there is a discrepancy between them whereas there is no discrepancy in a ‘consistent context.’ A ‘neutral context’ does not strongly suggest understanding the intended meaning of the target utterance in one or the other way. In other words, it is a context which neither suggests a clear interpretation of the utterance based on specific assumptions derived from the given context nor suggests a sharp inconsistency with the context.

Degree of echoing: The third independent variable, degree of echoing is added in order to see the influence of processing load on interpretation. Degree of echoing refers to the location of the echoing source, i.e. at which point of the conversation the original utterance or thought that the speaker attributes appears. This is manipulated at two levels, ‘immediate’ or ‘distant’. The echoing source appears just before the target utterance under the ‘*immediate echo*’ condition. A filler sentence is inserted before a target utterance so as to make the echoing source apart from the target utterance under the ‘*distant echo*’ condition. Filler sentences were neutral in order not to change or affect the context of each story.

Importance of an initial test.

The present study considers that it was important to assess the ability of participants to discriminate a given tone from others before the experiment. To this end, the following four tasks had been developed:

(a) discrimination task

Task is to listen to a playback of the recording twice and to decide whether the recording in the first playback and the one in the second sounded the same or different.

(first playback)

‘Lovely to see you.’

(spoken with either ‘conventional’, ‘exaggerated’, or ‘dead-pan’ tone of voice)

(second playback)

'Lovely to see you.'

(spoken with either 'conventional', 'exaggerated', or 'dead-pan' tone of voice)

Question: Did two playbacks sound the same or different to you?

YES / NO

(b) forced choice matching task

Task is to listen to a playback and to decide which one of the feelings best describes the speaker's feeling.

(Playback)

'Lovely to see you.'

(spoken with either 'conventional', 'exaggerated', or 'dead-pan' tone of voice)

Question: Which one of them best describes how the speaker feels?

- a) The speaker is happy.
- b) The speaker is annoyed.
- c) The speaker is bored.

(c) Alternative forced choice matching task

The speaker's state of emotion is presented.

'The speaker is annoyed.'

Task is to listen to a playback of the recording three times in which the speaker saying the same phrase but using a different tone each time, and to choose one that best conveys the speaker's state of emotion.

(first playback)

'Lovely to see you.' (spoken with conventional tone of voice)

(second playback)

'Lovely to see you.' (spoken with exaggerated tone of voice)

(third playback)

'Lovely to see you.' (spoken with dead-pan tone of voice)

Question: Which playback best conveys that the speaker is annoyed?

Answer: first playback/second playback/third playback

(d) Effect discrimination task

Task is to listen to a playback of the recording of a phrase spoken in a particular tone, and to decide how the playback sounded on a scale of 'extremely positive' on one side and 'extremely negative' on the other side.

(Playback)

'Lovely to meet you.'

(spoken with either 'conventional', 'exaggerated', or 'dead-pan' tone of voice)

Question: To what extent did the playback sound positive to you?

1	2	3	4	5
extremely negative	negative	neutral	positive	extremely positive

After taking both merits and demerits of each approach into consideration it was decided to use (a) *discrimination task* as an initial testing. The rationale for this was rather simple: only the discrimination task can test the ability to discriminate prosodic patterns from each other. The other approaches involve a task of discriminating the ‘effect’ of each tone of voice. Take an example of saying ‘*Lovely to see you*’ in ‘*exaggerated tone*’ in approach (b) and approach (d). It is possible that the speaker is sincerely expressing her positive feeling (happy) to meet her interlocutor, but at the same time it is also possible that the speaker intends to express her negative feeling (annoyed/contemptuous) implicitly by uttering the same sentence with ‘*exaggerated*’ tone of voice. It is not realistic to assess the effect of each tone of voice. In addition, tasks in (b)-(d), discriminating the ‘effect’ of tone are in fact, similar to the task questions in Experiment 2. Repetitive tasks risk response biases in the main testing trials.

5.5 Experiment 2

5.5.1 Method

Participants:

Ethics approval was obtained from ‘School of Arts and Education’ at the time when the approval was granted in November 2010 and School of Health and Education in Middlesex University. Sixty-five participants completed all the conditions of this experiment: 30 were native speakers of British English (BNS-participants) and 35 were Japanese speakers of English (JP-participants). All the participants were reported no known hearing impairment or language disorder at the time of testing. 30 BNS-participants (four are male and 28 were female) participated. Two of BNS-participants were professionals and the rest were students from Psychology department at Middlesex

University who took part in exchange for partial course credit of BA in Psychology.

Testing was taken place in a psychology-testing cubicle at Middlesex University during two weeks between January to February in 2013.

All the participants of JP-participants (five are male and 30 are female) voluntarily took part in the experiment. All of them were born in Japan and their first language is Japanese. They were living in the UK at the time of the experiment using English as second language (27 students, six professionals, two housewives). They were recruited through advertisements. Advertisements were circulated by lecturers or/and international student office at universities in the UK, by posting on websites and on Facebook, by flyers placed at organisations, communities, shops, restaurants and local social clubs that were involved in Japanese people in London. Testing was carried out at two separate occasions; two weeks between April to May in 2013 and two weeks between November and December in 2013. Most of JP-participants were tested either in a psychology-testing cubicle at Middlesex University, in a meeting room of the Psychology and Language Sciences Division of University College London (UCL), or in a lecture room at Essex University. Eight JP-participants could not participate in during daytime because of other commitments so that testing was arranged at participants' preferred place (six participants were tested at their houses and two participants were tested in public places). The average length of living in the UK was 30 months (range from 1 month to 204 months). Based on JP-participants' score of IELTS,⁸⁵ the average level of their language proficiency was reported as independent user level (equivalent of IELTS score between 6.0 and 6.5) set by CEFR.⁸⁶

Materials:

⁸⁵ Language proficiency of each Japanese participant was described in the score of IELTS that corresponded to the score of other official English tests that JP-participants had taken before.

⁸⁶ This does not include four JP-participants who had never taken any official English test.

Initial test. The following six phrases were recorded with three different types of tone, adding up to 18 stimuli.

- *Thank you very much*
- *It's not awkward at all.*
- *I really appreciate your help.*
- *Lovely to see you.*
- *Fantastic*
- *Yay*

A task was to listen to a playback of a stimuli twice and to decide whether the stimuli in the first playback and the one in the second sounded the same or different. Participants were asked to indicate their answers by pressing the appropriated response key designated '2' (SAME) or '3' (DIFFERENT) on the separate keyboard. In total there were 54 trials to complete. The trials were automatically played in random order without a stop.

Listening comprehension test (LCT). 22 brief stories were created (including four for practice). Some of them were completely original and the other were developed based on materials gathered from literature, TV programme, newspaper, actual everyday conversations, novels and so on. Each story described an interaction between two people. Each story included 'story' sentence/s (length of each sentence was ranging from 22-28 words), a 'context sentence' (ranging from 6-28 words in length) with/without a 'filler' sentence (ranging from 13-18 words in length), and ended a target utterance (stimuli). The number of words in each context type was as counterbalanced as possible. The words used in all the stories were carefully chosen based on the list of the vocabulary provided by Longman dictionary of contemporary English (2003) in which learners of English at intermediate level were expected to have learnt. Colloquial words or phrases and phrasal verbs were replaced with the words or phrases already taught if necessary.

For recording the auditory material, a discussion session was taken place under the supervision of an expert in the field of phonetics and phonology (Dr Jill House at UCL) to establish how each tone of the target utterance should be produced considering the context of each story. All the items of the material were then recorded by a professional male actor and Dr House herself. Each story except for its target utterance was narrated in a clear voice at a comfortable rate. Target utterances were recorded in three different tones of voice ('dead-pan,' 'exaggerated,' and 'conventional') acting a character of the story. Story parts and the target utterances were recorded separately. The auditory material was digitally recorded in a soundproof recording studio at UCL. After recording, a story part was dubbed together with a target utterance spoken with one of three different tones of voice. All the editing was done using the computer software '*Audacity version 2.0.2.*' Edited materials were transferred to '*SuperLab version 4.0*' in order to put all together. Table 5-11 presents an example from materials.⁸⁷ A desktop computer equipped with Windows operation system was used for testing, which took place in a psychology-testing cubicle at Middlesex University. When testing took place outside Middlesex University, a notebook (DELL) with Windows operation system and a separate keyboard were used. A set of headphones was provided for listening to the auditory materials. Participants were allowed to use their own earphones if they preferred. Stimulus presentation and data collection were controlled using '*SuperLab version 4.0.*'

Based on some feedback from native speakers who had taken part in a test-run of the method, some adjustments were made on the material and the procedure. Some stories in auditory format were too long or too complicated to hold in, and it was quite hard even for native speakers to follow the contents of the recording with undivided

⁸⁷ Full detailed materials are found in Appendix E.

attention. Taken these suggestions into account, some stories and some sentences had been made much simpler and shorter in length. The procedure was also changed into presenting captions of the audio material on the computer screen while the recording was being played.

Sample of the test item in Experiment 2

[party invitation]

Story sentence(s):

Alice and Tom were planning a dinner party at the weekend.
Tom said to Alice that it'd be nice to invite Susie to the party.

Context sentence ('inconsistent context relation'/'consistent context relation'/'neutral context'):

Susie was working with Tom so he knew she'd be free at the weekend. /
Susie was their friend who always looked after their daughter at weekends. /
Susie was a difficult neighbour who often got drunk and picked fights at parties.

Filler sentence:

Tom started checking on the Internet for recipes of tiramisu which he planned to make for the party.

Target utterance:

Alice said to Tom,
"It's a great idea to invite Susie."

Task question 1 ('attitude' question)

Was Alice happy to invite Susie to their party?

YES

NO

Task question 2 ('interpretation' question)

Which one of the following best describes what Alice meant by the final utterance?

Alice meant that _____

- (1) Tom was stupid to think Susie would be delighted to come to the party.
- (2) Tom was crazy to think it would be a nice idea to invite Susie to the party.
- (3) Susie will be annoyed.
- (4) it would be lovely if Susie could come to the party.

Task question 3 ('memory' question)

What happened in this story?

- (1) Tom and Alice were planning a dinner party.
- (2) Tom was planning not to invite Susie.
- (3) Tom and Alice were planning to go out for dinner.
- (4) Tom was planning to make roast chicken for the party.

Design:

A repeated measure design was used. There were three independent variables: context relation, the speaker's tone of voice and degree of echoing. These three variables completely crossed over, producing 18 experimental conditions. The context of each story was manipulated at three levels depending on its relation to a proposition literally expressed by a target utterance: '*inconsistent context relation*,' '*consistent context relation*,' or '*neutral context relation*.' The tone of voice in which the target utterance was spoken was also manipulated at three levels: '*baseline tone*,' '*dead-pan tone*,' or '*exaggerated tone*.' The third independent variable was degree of echoing, which was manipulated at two levels: 'immediate echo' or 'distant echo.' There were two dependent measures that were analysed separately: responses preferred to ironical interpretation and response time. Participants took part in all the 18 conditions of the experiment and the number of stimuli was counterbalanced across the participants. Eighteen trials were presented in random order. Trials were presented to participants in a counterbalanced way across types of context relation, tone of voice, and degree of echoing, so that the same interaction across three independent variables was not presented in different trials. In this manner potential response biases were avoided.

Each trial had a set of three task questions: 'attitude' question, 'interpretation' question and 'memory' question. The first task, 'attitude' question was designed to elicit understanding of the speaker's attitude and it was measured with forced-choice (YES/NO) measurement. It was made in the way that the response of 'YES' reflects the speaker's positive attitude and the response of 'NO' reflects the speaker's derogatory (negative) attitude. The second task, 'interpretation' question was designed to elicit understanding of the speaker's dissociation from or commitment to her utterance (the target utterance). This task question was measured with multiple-choice measurement. Among four choices one choice indicates attribution of thought to others, one choice

indicates the speaker's commitment to her utterance, and the other two choices are irrelevant to the context of a given story. The last task question 'memory' question was designed to elicit to what extent participants remember contents of the story. This task was also designed to check whether or not their responses were at random, and to help confirm or disconfirm that responses to the other two questions were reliable enough. The 'memory' question was measured with multiple-choice measurement, and there was only one choice that distinctively and correctly describes the contents of the story. This question was asked at the end in order to avoid a possibility that contents of the multiple choices might cause response biases.

Procedures:

Each participant completed the tasks individually. Before they started the tasks, an information sheet was handed to all the participants in order for them to understand in advance what the experiment involved, what they were expected to do, what kinds of instruments were being used, and how long the test itself lasted. The researcher made it sure whether participants understood the nature of the experiment. Then, they were asked to sign the written informed consent forms if they had agreed to participate in.⁸⁸ Participants and the researcher retained a copy of the informed consent form one each. Before the testing started, participants had had time to familiarise themselves with the equipment (i.e. how to adjust volume of headphones, which key they were expected to hit on the keyboard and so on).

Some of the participants were randomly assigned to take the initial test before Listening Comprehension Test (LCT) and the others started LCT straight away. Forty-two participants: (15 were BNS-participants and 27 were JP-participants) took part in initial test. The present study acknowledges that it is ideal to conduct an initial test with

⁸⁸ A sample of the information sheet and the informed consent form are found in Appendix D.

different participants to those who take part in the main experiment. However, due to difficulties with recruiting sufficient number of participants, the initial test was conducted on the same participants.

Instructions for LCT were verbally explained to participants. The tasks of Experiment 2 were to listen to the recorded story with a target utterance through headphones and to respond to the corresponding task questions. While the recording was played, captions that transcribe on-going recording appeared on the computer screen. Participants were told that it was not necessary to read captions while listening the recording if they preferred not to do so. There was no caption of the target utterance on the screen. Contents of all the task questions were presented in text on the computer screen. Participants were asked to choose the answer as quickly as possible without sacrificing accuracy in judgment by pressing the response key that designated 1, 2, 3 and 4 on the separate keyboard. After instructions were explained, participants were asked to do four trials as a practice. Step-by step instructions in text were displayed on the screen of the computer during the first trial of practice. At the end of the practice session participants were given some time to ask questions if any. They were instructed to press the spacebar to start LCT when they were ready. Immediately after the recording of a target utterance was played, the first task question appeared on the computer screen, and it automatically moved on to the next task once they pressed the response key. The recording of each trial was played only once. The next trial would start when participants pressed the space bar after responding the third task question. Participants were debriefed after they completed LCT.⁸⁹

5.5.2 Predictions

⁸⁹ Debriefing sheet is found in Appendix F.

If the proportion of participants favouring ironical interpretation differs depending on tone by context relation interaction, then a certain interaction leads to potentially ironical interpretation more strongly than others. If processing speed varies depending on tone by context relation interaction, then a certain interaction leads to potentially ironical interpretation more quickly than others. It is predicted that both JP-participants and BNS-participants would favour ironical interpretation more strongly and more quickly if the target utterance were spoken in deadpan tone, and the least number of participants would favour ironical interpretation if it were spoken in basic tone. A different response trend would be found between JP-participants and BNS-participants if the target utterance were spoken in exaggerated tone. While the effect of exaggerated tone on ironical interpretation would be as strong as the effect of deadpan tone for BNS-participants, its effect on JP-participants would be much weaker than the effect of deadpan tone and much closer to the effect of basic tone.

It is predicted that the proportion of participants in both groups favouring ironical interpretation would be highest if the type of context relation were inconsistent and it would be lowest if it were consistent. Given this, it is predicted that highest proportion of both JP-participants and BNS-participants would opt for ironical interpretation if deadpan tone interacted with inconsistent context, and the least proportion of participants in both groups would opt for them if basic tone interacted with inconsistent context.

As discussed in section 5.2.3 it is hypothesised that JP-participants would be more affected by manipulation of tone of voice. On the other hand, context relation would be stronger predictor than the tone of voice for BNS-participants' ironical interpretation. This would lead to a different response trend between sample groups. Thus, it is predicated that a greater number of JP-participants than BNS-participants would opt for ironical interpretation if deadpan interacted with consistent context relation.

Considering a prediction that JP-participants may show a different tendency if a target utterance were spoken in exaggerated tone of voice, difference between two groups would be evident if exaggerated tone of voice interacted with inconsistent context relation and if it interacted with neutral context relation. Under both conditions, the proportion of BNS-participants opting for ironical interpretation would be much higher than JP-participants.

5.5.3 Data analysis

Data was collected by using ‘*SuperLab version 4.0*’ and was imported into Microsoft Excel. ‘Response trend’ in preference for ironical interpretation was measured by the proportion of choosing ironical interpretation in task question 1 (‘attitude’ question) and task question 2 (‘interpretation’ question) in LCT. If the response to ‘attitude’ question was ‘NO,’ it was replaced with ‘1,’ if not, ‘0’. If the response to the ‘interpretation’ question represented ironical interpretation, it was replaced with ‘1,’ if not, ‘0.’ The proportion of participants who opted for ironical interpretation was calculated condition by condition and compared with each other. Ratings for ironical interpretation were based on the total of mean ratings of these two task questions. Prior to the statistical analyses, data distributions were examined to check underlying assumptions. Both mean ratings for ironical interpretation was found to be abnormal. Several attempts (trimming outliers, using robust method, i.e. bootstrapping, transforming data. i.e. log transformation, square root transformation) were made in order to reduce the biases. However, none of those attempts improved the assumption of normality. Levene’s test confirmed homoscedasticity at significant level ($p > .001$). Mauchly’s test revealed that the condition of sphericity was met ($p > .05$) indicating that the variances of the differences between JP-participants and BNS- participants are roughly equal. The effects of participant-group variable, the tone variable, and the context relation variable on response trend in preference for ironical interpretation was analysed using a mixed

design ANOVA (2 x 3 x 3) as both the within-group variables and the between-group variables. However, considering that the assumption of normality is not met and that the scores range only from 0 to 2, the results of statistical analyses are underpowered. So that a series of between/within group comparisons were performed using nonparametric comparisons in order to back up the power of statistic results from mixed design ANOVA. The effect of the degree of echoing (location of the source of echoing) on response trend was compared with those of distant echoes using Wilcoxon test as within-group variables.

Separated from responses to the other two questions, the response to task question 3 ('memory task) was analysed based on the correct choice from a multiple-choice question (response accuracy). Accuracy was calculated by replacing the correct choice with numerical rating '1,' and other choices with '0.' This task question was designed to test the extent to which participants remembered contents of the story. Among four multiple choices only one choice described contents of the story correctly and thus, responses to 'memory' task questions were analysed as accuracy not as tendency.

Processing speed trend was examined by measuring reaction time (RTs) to 'attitude' question. RT was measured in milliseconds from the onset of each stimulus (the target utterance) to the instant when the response button was pressed. The data were cleaned up by eliminating outliers before statistic tests: RTs shorter than cut-off point (a miss) at 2000 milliseconds and long RTs with more than 2 STDEVs away from the mean of each individual participant were trimmed. The effects of the tone variable and the context variable on processing speed were designed to be analysed using factorial repeated-measures ANOVA as within-group variables. The effect of the degree of echoing was designed to be analysed using a paired-sample t-test as within-subject variables. However, on analysing the data of RTs, the number of participant was dramatically dropped due to the trim of outlier data. The same occurred when using

instead the non-parametric statistic tests. The present study considered this situation as that analyses of the reduced number of participants makes the results of the study seriously underpowered. Thus, it decided not to analyse the data of reaction time further⁹⁰ and data analyses will focus only on the data from response trends.

Each of 18 conditions is abbreviated depending on interaction of three independent variables: each abbreviation was in order of ‘context relation,’ ‘tone of voice,’ and ‘degree of echoing.’ Henceforth, the following abbreviations are used in this chapter:

context relation	degree of echoing	tone of voice		
		<u>D</u> eadpan	<u>E</u> xaggerated	<u>B</u> asic
<u>I</u> nconsitent	<u>I</u> mmEDIATE	IDI	IEI	IBI
<u>C</u> onsistent	<u>I</u> mmEDIATE	CDI	CEI	CBI
<u>N</u> utral	<u>I</u> mmEDIATE	NDI	NEI	NBI
<u>I</u> nconsitent	<u>D</u> istant	IDD	IED	IBD
<u>C</u> onsistent	<u>D</u> istant	CDD	CED	CBD
<u>N</u> utral	<u>D</u> istant	NDD	NED	NBD

5.5.4 Results

Initial test:

The accuracy rate of initial test indicated that participants of both JP-participants and BNS-participants were capable of discriminating the sounds of different prosodic patterns from each other. In total 27 JP-participants and 15 BNS-participants took part in the initial test. The data of seven participants (two were JP-participants and five were NS-participants) were excluded from analysis due to technical problems that occurred during data collection and unreliability of the data collected in LCT (the data of

⁹⁰ After thorough examination of the situation, the problem with analysis of processing speed was solved. The problem involved how ‘outlier’ data (reaction time which was shorter than cut- off point (a miss) at 2000 milliseconds and long RTs with more than 2 STDEVs away from the mean of each individual participant) had been treated in the analysis. When removing ‘outlier’ data, they were not replaced with the mean score of each participant. This was how the number of participants was dramatically lowered in output of SPSS. The data of reaction time was analysed and the results of analysis regarding reaction time are added into the appendix. See Appendix G for the details.

participants who did not take part seriously). Thus, the data of 25 JP-participants and 10 BNS-participants were analysed. JP-participants ($N = 25$) completed 54 trials in 7.7 minutes ($SD = 1.4$) on average and mean score of response accuracy was 50.6 ($SD = 3.14$). On the other hand, BNS-participants ($N = 10$) completed the test in 7.0 minutes ($SD = 0.47$) on average and mean score was 50.60 ($SD=6.40$). This includes the data of one BNS-participant whose accuracy rate was much lower (61.6%) in comparison with the average of accuracy rate of the rest of BNS-participants (97.3%). When the data of this participant was excluded, the mean score increased to 52.56 ($SD = 1.74$). The data of this participant was excluded from further analysis.

Next, independent t-test was conducted to compare the performance in LCT between participants who had taken part in the initial test (the experiment group) and those who had not taken part (the control group). The results revealed that the experiment group of JP-participants ($n = 25$) had higher accuracy ($M = 39.36$, $SE = 1.04$) than the control group ($n = 6$) of JP-participants ($M = 35.50$, $SE = 2.17$). This difference, 3.86, BCa 95% CI [-0.414, 8.707] was not significant $t(29) = 1.632$, $p = .114$, $r = .08$. The same trend was found in the case of NS-participants: the experiment group ($n = 9$) had higher accuracy ($M = 41.78$, $SE = 1.44$) than the control group ($n = 9$) ($M = 39.67$, $SE = 1.19$). The difference, -2.11, BCa 95% CI [-2.846, -1.370] was not significant $t(22) = -1.111$, $p = .280$, $r = .05$. The results suggested that task performances in LCT were not undesirably affected by the conditions whether or not participants took part in initial test.

Listening comprehension test (LCT):

The results of 'memory' task question are reported first. The results of descriptive analysis showed that in overall terms JP-participants remembered the contents of the stories correctly at 85.3% of the time under conditions of immediate location variable, whereas BNS-participants remembered them correctly at 85.2% of the time. Under

conditions of distant location variable, JP-participants remembered the contents of the stories at 81.7% of the time whereas BNS-participants remembered them at 84.3%. Accuracy rate was also analysed between-group variable using Mann-Whitney test. This indicates that JP-participants understood the context of a given story as much as BNS-participants, and suggests that their responses to other two questions do not seem to be based on limited understanding.

Both ‘attitude’ question and ‘interpretation’ question were designed to look into participants’ preference for potentially ironical interpretation under each condition. The data of JP-participants were compared with those of BNS-participants in order to explore if any similarities between two participant-groups could be found in response trend.

Descriptive statistics of frequencies revealed the proportion of participants who preferred ironical interpretation under each condition (Figure 5.9). The proportion was based on the data of participants whose response to ‘memory’ question was correct. The left plot shows the ratio under each condition of immediate echoing variable in which the target utterance appeared just after the echoing source, and the right plot shows the one under each condition of distant echoing variable in which the source that the target utterance echoes was distant.

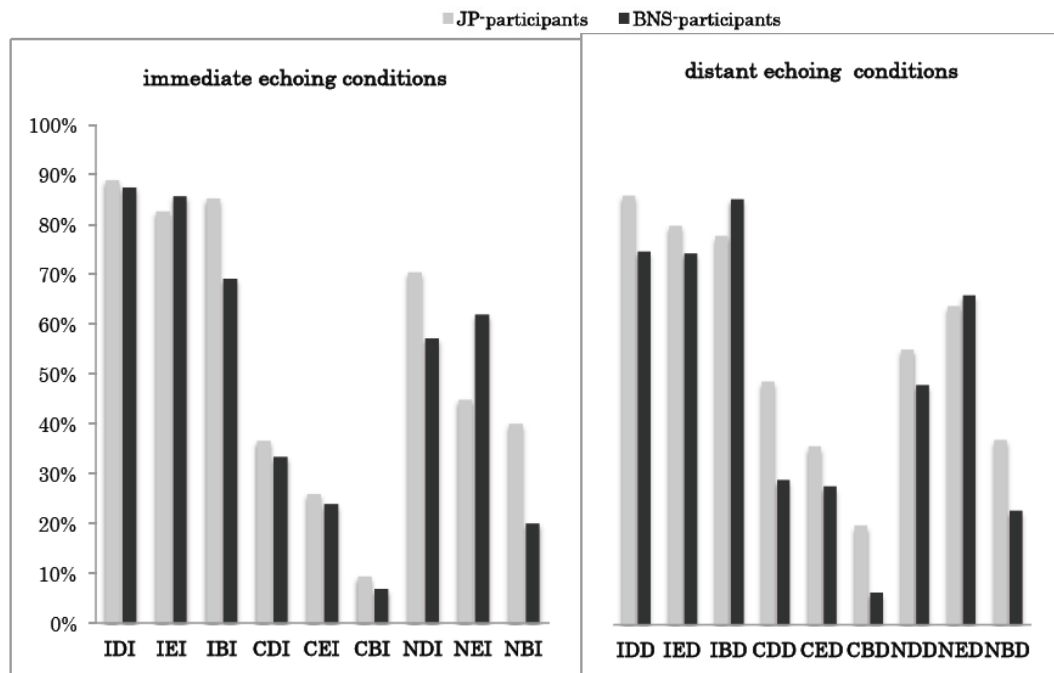


Figure 5- 9: The proportion of preference for ironical interpretation

As is shown, JP-participant group’s frequency of each condition of immediate echoing variable distributed in similar fashion as BNS-participant group. Both JP-participants (88.9%) and BNS-participants (87.5%) favoured ironical interpretation most under IDI. On the other hand, ironical interpretation was least favoured under CBI by both JP-participants (9.3%) and NS-participants (6.8%). A slightly different trend between the two groups was found under some conditions of distant location variable. While JP-participants favoured ironical interpretation most under IDD (84.8%), BNS-participants favoured them most under IBD (84.1%). Both groups favoured ironical interpretation least under CBD, but much greater number of JP-participants (19.6%) favoured them more than BNS-participants (6.3%).

Next, a mixed-design ANOVA was performed to see main effects of participant-group, tone of voice and context relation, and interaction effects across tone, context relation and participant-groups. The effects were analysed based on means of opting for ironical interpretation. All effects are reported as significant level at $p < .05$ unless

otherwise stated. The effects of degree of echoing (immediate location and distant location) were analysed separately.

The main effect of participant-group on preference for ironical interpretation was not found statistically significant under conditions of immediate location variable in total, $F(1,53) = .61, p = .437, r = .08$, and also those of distant location variable in total, $F(1,53) = 2.47, p = .122, r = .15$. On the other hand, the main effects of tone of voice were found statistically significant representing considerable sized effects: under conditions of immediate location variable in total, $F(2, 106) = 27.90, r = .46$, and under conditions of distant location variable in total, $F(2, 106) = 6.73, p < .05, r = .34$. The main effect of context relation was also found significant representing large-sized effects: under conditions of immediate location variable in total, $F(2, 106) = 78.17, r = .65$, and under conditions of distant location variable in total, $F(2, 106) = 75.87, r = .65$. These results indicate that potentially ironical interpretations are affected depending on the tone with which the target utterance was spoken or the relation between the context and the proposition literally expressed by target utterance. However, when these main effects of tone and context relation were compared by between-group variables, these effects disappeared. The main effects of tone showed no significant difference between JP-participants and BNS-participants: under conditions of immediate location variable in total, $F(2, 106) = 2.68, p = .073, r = .16$, and under conditions of distant location variable in total, $F(2, 106) = .77, p = .466, r = .08$. The main effects of the context relation also had similar effects on interpretations of JP-participants and that of BNS-participants: under conditions of immediate location variable in total, $F(2, 106) = .02, p = .983, r = .01$, and under conditions of distant location variable in total, $F(2, 106) = 1.78, p = .174, r = .13$. This indicates that although the speaker's tone and the context have certain effects on potentially ironical interpretation, interpretations of JP-participants were affected by these two variables

independently or not independently in similar ways to those of BNS-participants. The result of a mixed ANOVA test also revealed that when tone variable by context relation variable interaction effects were analysed by between-group variable, no significant difference was found between two participant groups: under conditions of immediate location variable in total, $F(4, 212) = .43, p = .789, r = .04$, and under conditions of distant location variable in total, $F(4, 212) = .60, p = .665, r = .05$.

Next, the main effect of each independent variable was analysed within-subject variable comparing three levels with each other. The results of comparisons across the three levels of tone under conditions of immediate location variable revealed that deadpan tone led to ironical interpretation more strongly than both exaggerated tone, $F(1, 53) = 9.88, p < .05, r = .40$, and basic tone, $F(1, 53) = 65.49, p < .05, r = .74$. Both contrasts yielded large- to massive-sized effect, which highlights that preference for ironical interpretation were strongly affected by tone. The effects of exaggerated tone were significantly higher than basic tone, $F(1, 53) = 16.68, p < .05, r = .49$, representing large effect size. On the other hand, contrasts across levels of tone under conditions of distant location variable revealed slightly different patterns to those found under those of immediate location variable. Ironical interpretation ratings were not significantly different between deadpan tone and exaggerated tone, $F(1, 53) = .11, p = .74, r = .05$; however, this contrast represented large-sized effect. Contrast between basic tone with other two types showed that when basic tone was used, ironical interpretation ratings were lower than deadpan tone, $F(1, 53) = 12.55, p = .001, r = .44$ and exaggerated tone, $F(1, 53) = 9.29, p < .05, r = .39$, both contrasts yielded medium- to large-sized effects. However, there was no statistic difference between the effect of deadpan tone and that of exaggerated tone, $F(1, 53) = .11, p = .74, r = .05$. These results indicate that the effect of each tone on potentially ironical interpretation varies: (when other two variables context relation and participant-group were ignored), the

effect of deadpan was strongest among three types and that of basic tone was weakest. The effect of exaggerated came in the middle.

Next, the main effects of the three level of tone were analysed between JP-participants and BNS-participants. From the result of a mixed ANOVA, a significant difference was found only a contrast between exaggerated tone and basic tone under conditions of immediate location variable, $F(1, 53) = 5.11, p < .05, r = .30$, representing medium-sized effect. Any of other contrast did not reach at significant level.

The main effects of context relation variable were also analysed both within group variable and between group variable comparing the three levels of context relation with each other. First it reports the results of within group variable. The results of comparisons across the three levels of context relation under conditions of immediate location variable revealed that ironical interpretation were more favoured when context type was inconsistent than both consistent context, $F(1, 53) = 129.84, p < .05, r = .84$, and neutral context, $F(1, 53) = 59.04, p < .05, r = .73$. Both comparisons yielded massive effect sizes. At the same time, ironical interpretation ratings under neutral context conditions were significantly higher than consistent context conditions, $F(1, 53) = 30.53, p < .05, r = .60$, yielding massive-sized effect. The results of the same contrast but under conditions of distant location variable showed the same patterns as those of immediate echoing conditions. Ironical interpretation was more favoured when context type was inconsistent than consistent context, $F(1, 53) = 143.30, p < .05, r = .85$, or than neutral context, $F(1, 53) = 50.86, p < .05, r = .70$. Both comparisons represented massive-seized effect. Ironical interpretation ratings under neutral context conditions were significantly higher than consistent context conditions, $F(1, 53) = 29.16, p < .05, r = .60$ yielding massive-sized effect. Those results indicate that ironical

interpretation was favoured more in the order of inconsistent context relation, neutral context relation and consistent context relation.

Next, it reports the results of between-group variable. The results of a mixed ANOVA test revealed that no significant difference between JP-participants and BNS-participants was found in any contrasts of the effect of each level of context relation. The same reading was obtained in the results of non-parametric test, Friedman's test.

Next, tone by context relation interaction effects were analysed within-subject variables. The effects of any interactions of tone by context relation were not significant when consistent context was compared with either inconsistent context or neutral context. The results revealed that the IDI condition (interaction of inconsistent context, deadpan tone, and immediate location) led to potentially ironical interpretation significantly stronger than the NBI condition (neutral context, basic tone and immediate location), $F(1, 53) = 12.03, p < .05, r = .43$. It is also revealed that the IDD condition (interaction of inconsistent context, deadpan tone, and distant location) led to potentially ironical interpretation significantly stronger than the NBD condition (neutral context, basic tone and distant location), $F(1, 53) = 7.64, p < .05, r = .35$. This suggests that participants considered both tone and context relation for irony level ratings.

To break down those interaction effects, the interaction effects were analysed between-group variable. Figure 5-10 illustrates each group's mean scores of each interaction. The top two plots display the mean scores under each condition of immediate location variable. The top left plot displays the mean scores of JP-participants, and the top right one displays those of BNS-participants. The bottom two plots display the mean scores under each condition of distant location variable. The bottom left plot displays the mean scores of JP-participants, and the bottom right one displays those of BNS-participants. At a glance, similarities in a tendency towards ironical interpretation between two groups are visible under almost all conditions:

regardless of types of tone both participant-groups favoured ironical interpretation when the context was inconsistent to the proposition literally expressed by the target utterance and ironical interpretation was least favoured when the context was consistent to the proposition literally expressed by the target utterance.

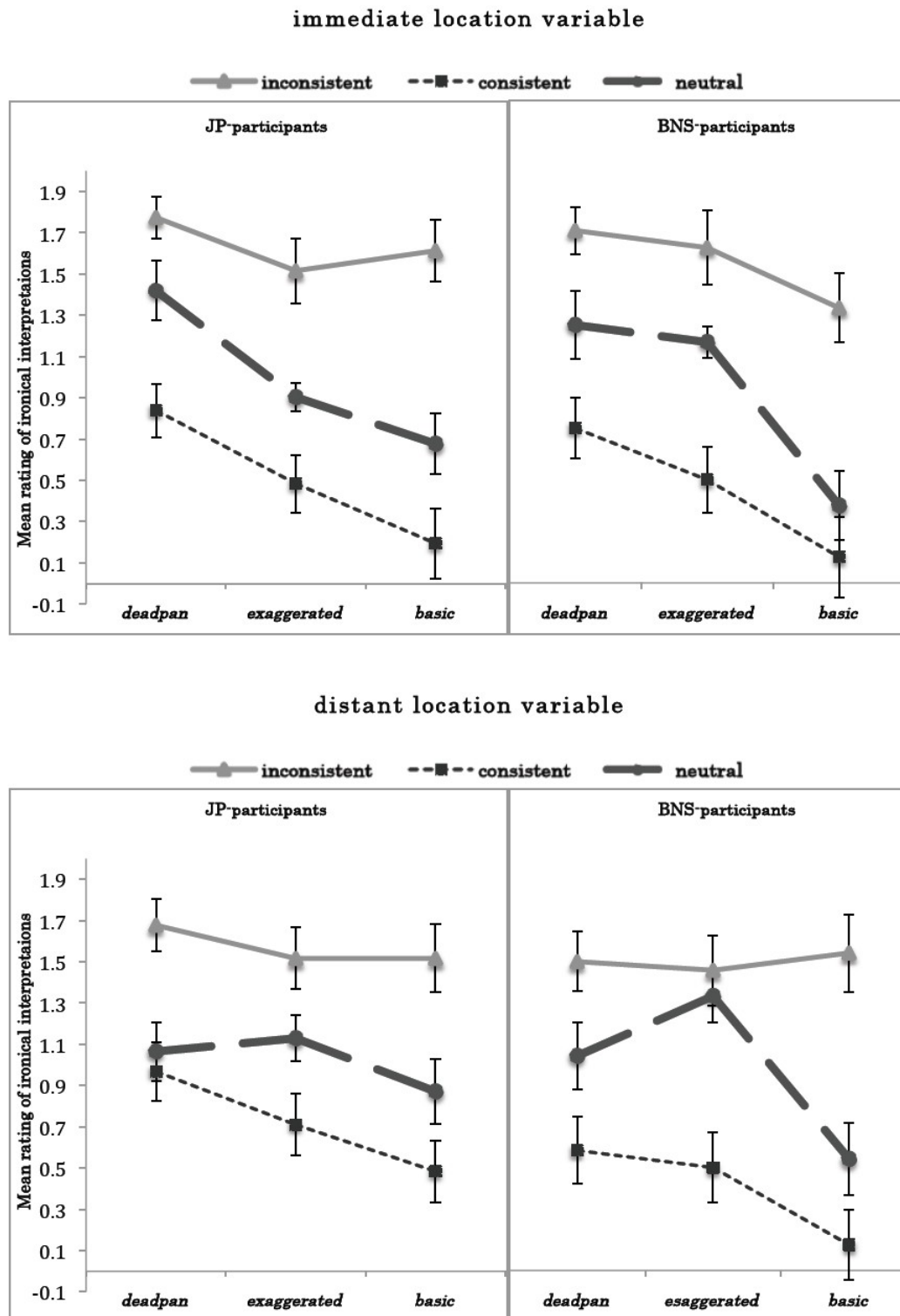


Figure 5- 10: Mean scores of interaction between tone, context relation and participant- group

Mann-Whitney test was conducted to compare mean scores of JP-participants with those of BNS-participants. A statistically significant difference between these two participant-groups was found only in the CBD condition (consistent context relation, basic tone, distant location). JP participants (Mean rank = 31.21, $Mdn = .00$, $SE = .72$) favoured ironical interpretation more strongly than BNS participants (Mean rank = 23.85, $Mdn = .00$, $SE = .45$) when the target utterance with distant echoing location in consistent context relation was spoken in basic tone, $U = 471.50$, $z = 2.275$, $p < .05$, $r = .31$. In other conditions, no effect was found. However, as it was shown in Figure 5-10, different trends were visible in the effects of exaggerated tone and its comparison with deadpan tone. While the effect of exaggerated tone and the effect of deadpan tone on ratings for ironical interpretation of BNS-participants were not much different under conditions of both immediate location and distant location variables, a difference in mean scores of JP-participants between these two types of tone looks greater than a difference in those of BNS-participants. Non-parametric test was performed in order to back up this observation. The result of Wilcoxon test revealed that for JP-participants, the effect of deadpan tone ($Mdn = 2.00$) on ironical interpretation was significantly stronger than that of exaggerated tone ($Mdn = 2.00$) under inconsistent context condition of immediate location variable, $T = 5.44$, $p = .02$, $r = .32$. The effect of deadpan tone ($Mdn = 1.00$) under consistent context condition of immediate location variable was also significantly stronger than that of exaggerated tone ($Mdn = .00$), $T = 4.77$, $p = .03$, $r = -.31$. For BNS-participants, no significant difference was found in comparisons between deadpan tone and exaggerated tone. The result of Wilcoxon test also revealed that the effect of exaggerated tone and that of basic tone on BNS-participants' responses were significantly different. For BNS-participants, the effect of exaggerated tone ($Mdn = 2.00$) on ironical interpretation was significantly stronger than that of basic tone ($Mdn = 2.00$) under neutral context condition of immediate location

variable, $T = 11.00$, $p = .006$, $r = .56$. The effect of exaggerated tone ($Mdn = .00$) under consistent context conditions of distant location variable was also significantly stronger than that of basic tone ($Mdn = .00$), $T = 7.50$, $p = .02$, $r = -.37$. Under neutral context conditions of distant location variable, the effect of exaggerated tone ($Mdn = 2.00$) was also significantly stronger than that of basic tone ($Mdn = .00$), $T = 46.00$, $p = .02$, $r = -.46$. For JP-participants, no significant difference was found in any comparisons between exaggerated tone and basic tone. This indicates that deadpan tone led JP-participants toward ironical interpretation more strongly than exaggerated tone whereas for BNS-participants the effects of these two types of tone were similar. It also indicates that exaggerated tone of voice led JP-participants toward ironical interpretation more strongly than BNS-participants.

Next, the effects of degree of echoing variable were analysed within-group variable using Wilcoxon test. The results revealed that JP-participants' response trend to ironical interpretation did not significantly differ depending on location of echoing source (degree of echoing) under any conditions. Effect sizes (r) represented by comparisons of each condition between immediate location and distant location were between small and medium sized, which suggests that variance is under 10%. For BNS-participants, response trends in preference for ironical was not affected by this variable either under any conditions, and effect size of each comparison represent very small-sized effect, which suggests that variance could be ignored.

5.5.5 Discussion

Experiment 2 was conducted to investigate a research question (RQ2) about to what extent the interaction of tone of voice with context relation (relation between the context of a story and the proposition literally expressed in a target utterance) guides Japanese speakers to potentially ironic interpretation in the same way as native speakers. The results confirmed that JP-participants could perceive and respond to prosodic cues in

English. They also confirmed that similar effects of each of three variables on potentially ironical interpretation were found between JP-participants BNS-participants.

Significant main effect of tone on ironical interpretations was observed. This result is in line with some experimental studies (Ackerman 1983; Bryant and Fox Tree 2002; Creusere 1999; Nakassis and Snedeker 2002; Rockwell 2000; Woodland and Voyer 2011) showing that the speaker's tone of voice plays a fairly important role in understanding of the speaker's intention and attitude. Both JP-participants and BNS-participants showed similar trend that basic tone gave rise to potentially ironical interpretation less strongly. What was not predicted was that the ironic interpretation of JP-participants was affected slightly more strongly than those of BNS-participants by deadpan tone. Although the effect of deadpan tone on the interpretation of BNS-participants was evident, as the results showed, for BNS-participants the effect of exaggerated tone was almost equally as strong as deadpan tone. A difference between the effects of exaggerated tone and deadpan tone was marginal for BNS-participants. On the other hand, the effects of exaggerated tone and basic tone was marginal for JP-participants. As predicted, a different trend was found in interaction of exaggerated tone with inconsistent context relation, and in interaction of exaggerated tone with neutral context relation. Exaggerated tone did not guide JP-participants to potentially ironical interpretation as strongly as BNS-participants. This suggests that the ironic interpretations of JP-participants were affected less strongly than those of BNS-participants by exaggerated tone. As discussed in chapter 2, different prosodic features correspond to the same label of prosodic contour. The best example is that the label '*ironic tone of voice*' has been used without consistency of phonetic features (Bryant and Fox 2005). Using the same label, its prosodic features are left alone to individual experimenter (Wilson 2014:10). In the literature, 'deadpan' tone is assumed to be associated with the speaker's attitude of "derogatory," "blame," or "sneer," whereas

'exaggerated' tone is assumed to be associated with attitude of 'mockery' or 'pretense' (Anolli, Ciceri, and Infantino 2002; Clark and Gerrig 1984; Laval and Bert-Erboul 2005; Rockwell 2000; Sperber 1984; Wilson 2013, 2014). The present study used both 'deadpan' tone and 'exaggerated' tone in 18 different contexts in a counterbalanced way. This means that there is no systematic relation between the context of the stories in the material and the strength of 'exaggerated tone' as a predictor for potentially ironical interpretation. In other words, it is hard to suggest that an 'exaggerated tone' is associated with particular attitudes while a 'deadpan' tone is not. What the present study can suggest from these findings is that the ironic speaker's dissociative attitude towards an attributed thought can be expressed by two different types of tone, which is in line with the suggestion made by Bryant and Fox Tree (2005) that there is no one particular '*ironic tone of voice*.' This finding also provides evidence for Wilson's assumption that 'irony may be conveyed by two slightly different routes (2014:11)'. A question of whether these two types of tone are linked to different mechanisms or whether this is a reflection of gradual nature of irony needs to be explored further in future research.

Then, why for JP-participants, exaggerated tone is weaker indicator for ironical interpretation? The present study has found no adequate explanation. It may be possible that JP-participants took this tone as associated with the speaker's overjoyed emotion or friendly and polite attitude toward the others, which both are common in Japanese society. It may be also possible that JP-participants as second language learners had been taught English intonation in an over stressed way in a classroom. When teaching new words to foreign students, EFL teachers tend to pronounce these words slightly stronger than usual in order to stress correct phonetic features of vowels and syllables. Even if this difference was contributed to either way, it appears to be difficult to show any conclusive evidence only from the results of this experiment. Future research needs to explore these possibilities further.

Furthermore, the main effects of context relation on ironical interpretation were clearly evident. Both participant-groups showed a tendency to prefer potentially ironic interpretation under inconsistent relation conditions where the context of the story and the proposition literally expressed by literal contents of the target utterance generates a discrepancy, but they did not when a discrepancy was missing (consistent context relation). This result parallels with most major theories of irony (Clark and Gerrig 1984; Kreuz and Glucksberg 1989; Kumon-Nakamura, Glucksberg, and Brown 1995; Sperber and Wilson, 1995, 1998, 2006; Wilson and Sperber, 1992, 2012, 2013) and experimental studies (Colston 2001, 2002, 2007; Colston and O'Brien 2000a, 2000b; Gerrig and Goldvarg 2000; Ivanko and Pexman 2003; Kreuz, R. J. 1996).

The hypothesis that JP-participants would be more affected by manipulation of tone of voice was not confirmed. The present study hypothesised that due to overloading processing demands Japanese speakers may have some difficulties with eliminating an assumption based on information from the speaker's tone when it contradicts an assumption based on contextual information. However, against this hypothesis that for JP-participants the effect of tone would override the effect of contextual discrepancy, the results showed that regardless of tone of voice just as BNS-participants JP-participants had a tendency to interpret a given utterance ironically as long as contextual discrepancy exists. This indicates that both Japanese speakers and native speakers consider the speaker's tone of voice and context relation when they construct and select the intended assumption.

The effects of degree of echoing on interpretation were found to be small. Extra processing load did not seem to affect either JP-participants or BNS-participants. However, this finding is partial. Since there was no data of processing speed, the present study cannot speak of its effect. The effects of processing load on non-native speakers' interpretation processes of potentially ironical utterances should also be investigated.

Apart from the effects of processing speed, the present study provides significant and new insight on L2 irony understanding. Experimental work of the present study was conducted within theoretical framework of cognitive-oriented relevance-theoretic account of irony. It found that Japanese speakers can recognise the ironic speaker's attitude in similar ways to native speakers. This finding indicates that recognition of other's attitude from prosody seems universal, hence relevance-theoretic pragmatic principles would be likely taken as universal.

5.6 Summary

This chapter reported experimental work of the present study. Two experiments were conducted within a theoretical framework of the echoic account of irony. These experiments did not look into response accuracy in choosing the same interpretation as native speakers. Instead they looking into similarities of response trend in preference to ironical interpretation, have explored 1) to what extent Japanese speakers understand the ironic speaker's attitude, 2) to what extent the speaker's tone of voice affects the way ironical utterances are interpreted. The results suggested a conclusion different to the main claims suggested in previous experimental studies and gave new insights to the study on comprehension of L2 irony. Japanese speakers demonstrated a similar way of understanding the speaker's attitude expressed by ironical utterances, which makes it seem unrealistic to suggest that non-native speakers have difficulties with ironical interpretation. The results of Experiment 2 suggested that Japanese speakers' response trend in preference for potentially ironical interpretation was similar to those of native speakers of British English. Similar effects of tone of voice by context relation interaction suggested that both Japanese speakers and native speakers of British English consider context and prosody when they infer the speaker's meaning in ironical utterances. However, while statistical tests revealed that the difference between Japanese speaker and native speakers of British English was not statistically significant,

Japanese speakers appeared to react to exaggerated tone of voice slightly different way compared to native speakers of British English. Chapter 6 pointing to some limitations of the present study discusses findings from two experiments and outline implications for future research.

CHAPTER 6 GENERAL DISCUSSION AND CONCLUSIONS

6.1 Overview

This chapter summarises the discussion above, presents again the main conclusions, outlines some limitations of the findings discussed here and suggests possible future research. The summary and main conclusions are in section 6.2. Limitations of this study are in section 6.3 followed by the ideas for future research in section 6.4.

6.2 Summary

This study explored the extent to which Japanese speakers of English understand potentially ironical utterances in a similar way to native speakers (here of British English). It pointed out problems with the theoretical frameworks (mainly based on Gricean/'classical' accounts) adopted by much of the previous research in this area and adopted instead the more fully developed relevance-theoretic framework. It also identified further methodological issues with previous studies and developed a new approach applied in two experiments. The first experiment contradicted previous assumptions in suggesting that Japanese speakers can respond to potentially ironic utterances in similar ways to native speakers. The second experiment found that they can both perceive and respond to prosodic cues in English in a similar way to native speakers. There are some limitations to the findings of the experimental work but they suggested interesting new lines of research on the details of how Japanese speakers respond to prosodic cues, as well as further theoretical, and pedagogical, implications.

The starting point for this work was the general assumption that second language speakers appear to struggle with second language irony and the specific assumption that Japanese speakers appear to struggle with irony in English. It began, in chapter 2, by presenting the echoic account of irony (Sperber 1984; Wilson 2006, 2009, 2013, 2014;

Wilson and Sperber 1989, 2012), developed within relevance theory (Clark 2013; Sperber and Wilson 1995, 2005; Wilson 2014; Wilson and Sperber 2002, 2012). It compared this approach to the Gricean approach (Grice 1975, 1978), which treated irony in a similar way to the classical/traditional view in assuming that irony involves communicating ‘the opposite’ of what speakers seem to be saying. The echoic account rejects this central claim and offers a fuller explanation of the range of ways in which irony occurs and is used. It claims instead that irony is a vehicle for expressing the speaker’s attitude. It is an echoic use of language which serves to show that the speaker intends to express her dissociative attitude or reaction to an attributed thought or utterance (Wilson 2013: 46). Irony is not seen as a clearly definable natural kind (Wilson 2006:1732) and interpretations are seen as more or less ironic depending on the extent to which the speaker can be taken to be implicitly attributing a thought or utterance and implicitly dissociating herself from that thought or utterance. No substitution mechanism is required for ironic interpretation: an audience applies the ‘relevance-guided comprehension heuristic’ proposed by relevance theory to construct and evaluate hypotheses about the speaker’s meaning. Taking a path of least effort, a hearer arrives at an interpretation that satisfies his expectations of relevance (Sperber and Wilson 2005:360). Naturally, these features of the echoic account have implications for work on understanding irony in L2. Given the indefinable nature of irony as language use (i.e. that we cannot always definitively say whether an interpretation counts as a case of irony or not), investigations cannot be designed on the assumption that there is a definitive answer to the question of whether an utterance is intended to be taken as ironic. From this point of view, this study argued that it was problematic for earlier experimental studies to assume that there is a ‘correct’ interpretation of a given utterance with regard to its potential as ironic. Implications from the relevance-theoretic account guided the empirical work of the present study to consider instead the extent to

which second language speakers' responses are similar or different to those of first language speakers with regard to potentially ironic utterances.

Chapter 3 considered previous research specifically on how non-native speakers interpret ironical utterances. It pointed out some theoretical and methodological problems with work conducted within a theoretical framework based on the Gricean account (by Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999, Lee 2002, Manowong 2011, Yamanaka 2003). The main problems included: a) problems that stem from the adoption of generally Gricean/classical assumptions about irony; b) problems with how these previous studies understood the term 'implicature'; c) problems with their assumption that native speakers always or typically interpret ironical utterances 'correctly' and in the same way; d) problems with how they assessed whether non-native speakers interpret ironical utterances in the same way as native speakers (when in fact native speakers did not always make the same assumptions with regard to whether a given utterance was intended as ironic; e) problems with their assumption that 'difference' or 'deviation' from native speakers' language behaviour represents 'failure' or 'inability' of non-native speakers; f) problems with their assumption that non-native speakers and native speakers need to mutually share perceptions about representations of the world for successful communication. While this discussion cast doubt on many conclusions suggested by previous research, nevertheless their work did confirm differences between first and second language speakers in responding to the same stimuli, i.e. the critical discussion of previous work developed here did not cast doubt on the general assumption that second language speakers often respond differently from first language speakers to potentially ironic utterances.

Chapter 4 looked more closely at some possible explanations for differences between native and non-native speakers. First, it considered the assumption made by many previous researchers that 'cultural differences' were responsible for different

interpretations. It is, of course, not helpful to refer to cultural differences as a potential explanation without saying something about the nature of those differences. This thesis did not aim to develop an account of how cultural differences affect non-native speakers' understanding of language behaviour in a second language. However, it did discuss how cultural differences could be seen to play a role within a relevance-theoretic approach. The discussion focused on how the construction and access of contextual assumptions during interpretation is affected by 'culture'. It addressed the question of the extent to which non-native speakers and native speaker need to mutually share cultural assumptions or representation of the world. It considered the notion of 'mutual manifestness developed by Sperber and Wilson (1995) in accounting for varying access to particular assumptions. A notion developed within relevance theory which can play a key role is the notion of 'mutual manifestness (Sperber and Wilson 1986), which is less strong than the notion of 'mutual knowledge' which runs into a number of problems, including the often-discussed problem of 'infinite regress' needed to establish that it exists (see discussion in Sperber and Wilson 1995, chapter1, section 3, section 5; Smith 1982:62-63). A crucial difference in considering the role of cultural assumptions is that assuming 'mutual knowledge' of these would require cultural assumptions to be fully shared by members of particular cultural groups and for all parties in a communicative act to mutually know that others share the same assumptions. By contrast, assumptions can be mutually manifest to varying degrees and individual assumptions do not even need to be entertained at a specific time in order be mutually manifest. This weaker notion more accurately reflects some of the varying ways in which cultural assumptions can affect communication. Further, this account allows for membership of cultural groups to shape one's contextual assumptions without individuals necessarily being aware of this, and for some assumptions to be affected by membership of a cultural group while still being individual or

‘idiosyncratic’. The key question about cultural assumptions is not a straightforward question of whether two or more individuals share the same assumptions but a more complex question about the extent to which the sets of assumptions manifest to more than one individual are similar and about the possibility of particular assumptions being or becoming mutually manifest during communication. Communication depends on what is or can become mutually manifest rather than presupposing what is fully shared.

The chapter then considered two factors which have been mentioned in previous studies but never fully explored: the effects of paralinguistic cues, in particular prosodic cues, and the effects of processing load. A survey of studies on the universality of prosodic effects in the recognition of emotion and on the (more limited) capacity of working memory available to second language speakers helped to direct the design and execution of the experimental work presented in chapter 5. Previous research suggested or assumed that speakers can express emotion or attitudes by varying prosodic features (i.e. pitch, loudness, voice quality, and/or speed) and that hearers make inferences about the speaker’s emotion or attitudes by paying attention to such prosodic attributes (Paulmann and Uskul 2014:237). Many studies suggest that such ‘inference rules’ in the use and recognition of prosody in the showing and inferring of emotion are universal (Bachorowski 1999; Elfenbein and Ambady 2002a; Pell, Monetta, Paulmann and Kotz 2009; Paulmann and Uskul 2014; Paulmann, and Kotz 2009; Scherer 1986, 1997; Scherer and Wallbott 1994; Scherer, Banse and Wallbott 2001; Scherer, Banse, Wallbott, and Goldbeck 1991; Thompson and Balkwill 2006). At the same time, many studies suggest an ‘in-group advantage’ where particular basic emotions are recognised slightly better when emotions are both expressed and perceived by members of the same cultural group (Elfenbein and Ambady 2002a, 2002b, 2003a, 2003b; Paulmann and Uskul 2014; Pell, Monetta, Paulmann and Kotz, 2009; Scherer et al., 2001; Scherer and Wallbott 1994; Thompson and Balkwill, 2006). These suggestions gave the present

study a rationale to investigate whether such universal ‘inference rules’ and a similar ‘in-group advantage’ also applied to the case of second language speakers’ understanding of irony in a second language. Findings from these studies were based on stimuli that were either taken out of context or created in pseudo utterances (meaningless utterances). This suggested that it would be useful to explore whether similar tendencies with regard to the recognition of vocally expressed emotion would be found when stimuli allowed for the potential of the effects of context.

This chapter also considered the possible effects of processing load and the capacity of working memory, i.e. how much information can be processed at a specific time (Call 1985; Cook and Liddicoat 2002; Taguchi 2008b). Less automatic processing of linguistic inputs in a second language means that processing imposes greater cognitive demands on second language speakers (Hoover and Dwivedi 1998; Kormos and Sáfár 2008; Poelmans 2003; Randall 2007), and this in turn means that less working memory capacity is available for higher-order processing such as processing information from multiple non-linguistic sources (Daneman and Merikle 1996; Juffs and Harrington 2011; Linck et al. 2013; Link and Weiss 2015). The higher language proficiency develops, the more working memory capacity becomes available. Given this relationship between the development of L2 proficiency and the capacity of working memory in general and ‘the central executive’ component in particular is robust, individual differences in the capacity of working memory may be more evident between first language speakers and second speakers. While the growth of language proficiency facilitated the ability to understand implicature in a second language, previous studies (Bouton 1992a, 1992b, 1994a, 1999; Yamanaka 2003) did not find any effect on L2 irony interpretation. The present study did not consider the effects of language proficiency, *per se*, but it assumed that individual differences in the capacity of working memory would follow from differences in proficiency level, potentially affecting the

interpretation processes of ironical utterances. These assumptions guided the design of the present study to investigate the effects of prosody in the presence of specific contextual clues. Assuming that processes of accessing information from a range of different sources need to be automatically executed to construct contextual assumptions, if the manipulation of prosodic information constrains second language speakers' processing load, individual differences in the capacity of working memory between first language speakers and second speakers could also be a factor leading to different interpretations.

In the light of theoretical discussion in the preceding chapters, the empirical work of the present study explored the extent to which Japanese speaker participants understood English ironical utterances in a similar way to native speaker participants. I carried out and reported two experiments: Experiment 1 involved self-paced reading irony comprehension and Experiment 2 involved real-time listening irony comprehension. The present study offers a new perspective on how second language speakers understand irony in a second language. The primary findings are:

- (1) that Japanese speakers of English can respond to potentially ironic utterances in similar ways to native speakers;
- (2) that Japanese speakers of English can both perceive and respond to prosodic cues in English;
- (3) that prosodic cues affect the interpretations of Japanese speakers of English in similar ways to how they affect the interpretations of native speakers;
- (4) that the interpretations of Japanese speakers of English are may be affected less strongly by 'exaggerated' prosody and more strongly by 'deadpan' prosody than those of native speakers;
- (5) that Japanese speakers of English respond to the interplay between tone of voice and context in similar ways to native speakers.

These findings refute some of the suggestions of previous studies (Bouton 1988, 1990, 1992a, 1992b, 1994a, 1994b, 1996, 1999; Bromberek-Dyzman and Ewer 2010; Lee

2002; Manowong 2011; Shively et al. 2008; Yamanaka 2003). Just like native speakers, the Japanese participants in this study were able to recognise the speaker's attitude as implicitly attributive and as implicitly dissociative, in understanding a range of potentially ironical utterances. Further, the amount of confusion over various ways of interpreting the interaction of tone and context appeared to be similar for Japanese speakers and native speakers. Adopting an idea from 'dialect theory' (Tomkins and McCarter 1964:127 adopted from Elfenbein and Ambady 2003a:162) that is that just as dialects of a language which differs in accent, vocabulary, and grammar, the universality of the recognition of emotion have dialects which differ subtly from each other, this thesis suggests that, while prosody affects the interpretation of ironical utterances in similar ways for Japanese speakers and English speakers, differences in the effects of 'exaggerated' contour between English speakers and Japanese speakers might share properties of variation among 'dialects.' The manipulation of the interplay of these two variables did not affect Japanese speakers' interpretation processes significantly differently. Japanese speakers and native speakers responded to manipulation of these variables in a highly similar fashion. Increasing processing effort by manipulating the nature of echoing (i.e. whether the echoed source comes from an immediate or distant location) did not affect Japanese speakers' interpretation processes more strongly than those of native speakers. Experiment 2 revealed no significant patterned differences between the responses of Japanese speakers and native speakers. It is possible that data provided by a measure of processing speed (reaction time) would have given a better indication of this and so this is a possible line of further investigation.⁹¹

⁹¹As mentioned in footnote 90, the results regarding reaction time are added into the appendix. See Appendix G for the details.

To sum up, this study suggests the possibility that non-native speakers' ways of understanding potentially ironic utterances are not significantly different from those of native speakers.

6.3 Limitations of the experimental work

This section discusses some limitations of the experimental work reported here and considers some of the conclusions we can draw with more or less confidence.

There were a number of methodological difficulties to negotiate in designing the experiments reported here and several limitations which follow from the nature of the experimental design. One of the shortcomings of Experiment 1 is that the survey did not include any trials with fillers (distractors) in the material. It seems highly likely that participants may have been unnecessarily alerted to the purpose of the survey (i.e. the potential for ironical interpretations) towards the end of the survey. For future research, such a risk (i.e. response biases) should be avoided by adding more test items (fillers), so that the measurement would be more reliable. The design of similar investigations in the future should take this into account. Another is that the comparison between Japanese speakers and native speaker participants was performed only in tacit remark conditions. There was an artefact of allocating participants equally into groups associated with two different testing conditions. A procedure was designed to assign participants to one set of materials (group A) or the other (group B) depending on their response to a neutral question (*which computer operating system (OS) are you using to complete this survey, Windows or MAC?*). However, it turned out that the number of participants assigned to both materials was not counterbalanced (no native speaker participants were assigned to group B), so that the data from 10 Japanese speakers assigned to group B were excluded from further analysis. This resulted in a change of the experimental design from repeated measure to independent measure, which limits the scope for interpretation of the results. Given that the survey was distributed online, it

was not possible to control allocation procedure. The question that determined allocation could have been constructed more carefully. A possible solution for this would be distributing a survey on a separate occasion using each a set of material controlling the number of participants who complete the survey. Although it would be not easy to conduct in this way since the final number of participants would be unknown from the start. The size of the sample also should be considered. While the difference did not reach a significant level, a considerable size effect was found in some cases, so that the risk of Type I error could not be reduced. It awaits replication of the investigation with bigger size.

The complexity of the experimental design of Experiment 2 (2 participant-groups x 3 types tone x 3 types of context relation x 2 types of degree of echoing) led to some difficulties with data analysis. There are several factors which need to be taken into account in evaluating the findings of the empirical work. Critics might point to issues of coherence given that parametric analysis was performed on the scores ranging only from 0 to 2 where non-parametric tests would have been more applicable. However, a mixed design ANOVA (2 x 3 x 3) was the only option for statistical significance analysis to measure the effects of these independent variables in mixed design since there is no equivalent non-parametric test. As a solution, a series of nonparametric tests using between/within group comparisons (i.e. Mann-Whitney test, Friedman's ANOVA and Wilcoxon test) was performed in parallel with a mixed design ANOVA test in order to increase the reliability of the results. As ever, experimental design needs to be considered with all due caution.

In addition, this study looked into response trends in favouring ironic interpretations in particular. In the experimental design of Experiment 2, the context variable and the tone variable were manipulated against each other. For data analysis, the scores that indicated preference of an ironical interpretation under each condition

were counted. Although this study did not presuppose that certain conditions would give rise to ironical interpretation, there were certain numbers of stimuli that clearly indicated otherwise. For example, when a consistent context variable interacted with a 'deadpan' tone variable, the majority of the participants did not favour ironic interpretations. Hence, the mean score to be measured for analysis was low. This means the mean score of the response trends under such a condition included not only the number of participants who indeed favoured an ironic interpretation but also the number of participants who may have been unsure and chose this option as a guess. Although measuring response trends rather than response error/accuracy was a priority of this experiment, a better measurement needs to be considered in future experiments. Another drawback is the decision that the present study would not analyse one of the other dependent variables, 'reaction time'. This decision was made on the basis of the preliminary results which showed that the number of participants was dramatically lowered as a result of removing 'outlier' data (reaction time which was shorter than cut-off point (a miss) at 2000 milliseconds and long RTs with more than 2 STDEVs away from the mean of each individual participant). In consequence, the effects of tone on processing speed were not measured, and the effects of processing load on the interpretation of potentially ironic utterances by second language speakers has been left for future research.⁹²

Difficulties with research on irony comprehension with regard to methodological aspects seem mostly related to its indefinable nature. Experimental design (how and what to measure) has been a big challenge for researchers. Due to the nature of irony, what should be elicited (i.e. the speaker's attitude, discrepancy, etc.) varies on a gradual scale which makes it difficult to represent each statement in task questions, statements

⁹² As mentioned in footnote 90, the results regarding reaction time are added into the appendix. See Appendix G for the details.

of choices in multiple-choice question, or descriptors. One of the difficulties the present study had was about how to represent the speaker's attitude. In particular, the speaker's attitude in an ironical utterance covers a range of more or less dissociation shading off with no clear cut-off point into cases which would not be consistent with irony. Forced choice questions with a response of either YES or NO to the statement describing a particular attitude (used in Experiment 2) did not appear to be the best way. In some examples, the speaker's attitude was not appropriately described. Even if it were so, it is still difficult to present a subtle difference between particular emotions or attitude (e.g. the speaker may not be flabbergasted but upset). A better measurement would be a tick-all-applicable task question as used in the study by Shively et al. (2008). However, this type of measurement is very difficult to analyse.

Another difficulty concerns the authenticity of dialogues used in the test examples. The examples used in the empirical work in this study were created based on examples of verbal irony discussed in research literature and on actual conversation from radio shows, newspaper articles and TV programmes. Previous experimental studies on second language learners' pragmatic comprehension abilities used examples from similar sources. However, there are problems with each type of source. For examples, adopting examples of sarcasm, irony, humour, jokes, cynicism, banter and so on from a sitcom TV programme needs to be handled with caution. Usually dialogues from TV drama or film are made for some sorts of effects aiming to get the audience to understand a certain effect. This may make the test example too obvious and, in turn, easier for participants to grasp the idea behind the testing. Ifantidou (2014:40) pointed out that in closed-end discourse completion tasks or multiple-choice questions using artificial mini-scenarios, the range of pragmatically inferred meanings which may be communicated in real-life situation is simplified, restricted and underrepresented. Of course, these difficulties do not arise only for the present study. There has been

considerable discussion of methods for assessing second language speakers' pragmatic comprehension abilities in the last two decades (see, for example, Kasper and Rose 2002; Rover 2001, 2005, 2011; Kasper and Dahl 1991; Ifantidou 2013, 2014). There is no quick fix to solve these problems.

Another methodological implication is that it is advisable to adopt psycholinguistic techniques in research on the same area. Ren (2013) points out that research on interlanguage pragmatics has tended to follow one particular tradition: descriptions of language use in L2 learners' performance rather than investigations of their cognitive processes (Robinson 1992: 31). Roberts (2012) suggested the use of online methods in which the performance of non-native speakers is assessed in real-time processing. This makes sense given that some problems non-native speakers have relate to difficulties in accessing relevant knowledge and integrating information from different sources. Felser (2005:95) demonstrated how the use of on-line psycholinguistic techniques borrowed from areas of psychology could contribute to understanding of aspects of L2 performance involving language processing. She explained that such techniques enable researchers to explore aspects of processing in L2 that are not otherwise open to direct observation. Noveck and Sperber (2004, 2007) suggest an experimental pragmatic approach to research on the psychology of reasoning. They point out some limitations of traditional studies of the psychology of reasoning (in pragmatics and psycholinguistics). While theoretical research in the field of pragmatics has been mostly based on intuitions, which are kinds of educated guesses, and observational data (Noveck and Sperber 2004:12), psycholinguistic experimental approaches often overlook phenomena of comparable empirical importance resulting in imbalanced coverage of topics (e.g. investigating a topic related to 'metaphor' in detail while ignoring cases of 'irony' due to inattention to work in the discipline of pragmatics (Noveck and Sperber 2004: 14). They suggest that both study traditions would have much to gain if they systematically

put pragmatic hypotheses to the experimental test while dealing in part with the same material at the same level of abstraction (Noveck and Sperber 2004:15).

From this discussion, it seems that a more integrated framework based on current pragmatic theory and using methods borrowed from research in psychology could prove useful in guiding future investigations of the understanding of pragmatically inferred meanings in general and of irony in particular.

6.4 Implications for future research

This section suggests some lines of future research. This study investigated the effects of prosodic contours as a first step in exploring the comprehension of potentially ironic utterances in a second language. Future research on L2 irony comprehension necessarily needs to explore other possible factors and investigate their effects one by one in order to account for their effects. This has implications for future research focusing on the recognition of prosodic cues, as well as on other factors which contribute to explanations of differences between non-native speakers and native speakers.

This study focused only on Japanese speakers as non-native speakers of English. It would be interesting also to compare the effects of prosody on native Japanese speakers' ironic interpretation in English as L2 with those on interpretation in Japanese L1 and to compare native English speakers' ironic interpretation in English as L1 with those on interpretation in Japanese as L2, as focused on in work by Bromberek-Dyzman and Ewert (2010) and Bromberek-Dyzman et al. (2010) which compared irony in English as a second language with irony in Polish as a first language. Investigation using different categories would expand the scope of understanding of L2 irony comprehension. This study only tested Japanese speakers of English as a sample of non-native speakers and native speakers of English as a sample of native speakers of English. Testing non-native speakers of English from different cultural groups in

comparison with native speakers of English from different English speaking countries (e.g. Canada, Australia, New Zealand, Singapore, etc.) might provide different insights.

The present study did not explore further the question of whether Japanese speakers' lesser reliance on 'exaggerated' tone for ironic interpretation is a cultural or a linguistic reflection. While it suggested the possibility that 'exaggerated' tone is used in EFL classrooms when teachers focus on accurate pronunciation of newly introduced words, we do not know definitively whether the difference observed in the present study was a reflection of linguistic difference in prosodic feature between Japanese and English or whether this has more to do with Japanese culture with regard to expressing friendliness or/and politeness towards others in conversation. It would be interesting to explore this difference further from a comparative linguistic approach and/or a sociopragmatic approach.

The present experimental study used three types of prosodic contours ('dead-pan,' 'exaggerated,' and 'basic') with an assumption that both 'dead-pan' tone and 'exaggerated' tone have the potential for ironical interpretations. While the results of this study have provided evidence that potentially ironical utterances seem to be produced not only with the regular ironical tone of voice ('dead-pan' tone) but also with the overly enthusiastic tone (exaggerated tone), it cannot be suggested from the results of the present experimental work that these two types are the only prosodic patterns that strongly lead to potentially ironical interpretations. There might be prosodic contours which facilitate ironic interpretations other than these two types. Future research could benefit from using a greater variety of contours for testing. As discussed, these two prosodic contours, 'deadpan' and 'exaggerated', do not lead only to ironic interpretations. A future research aim could also be to explore the effects of these two types on the interpretation of other kinds of utterance.

There are a number of potential explanations for differences in interpretation between native speakers and non-native speakers, involving not only cultural but also pragmatic, linguistic or/and cognitive aspects. In addition, a combination of these aspects needs to be considered. More studies are definitely needed. As discussed, there is a rich literature on relations between working memory capacity and L2 processing and outcomes (Daneman and Merikle 1996; Linck et al. 2013). The effects of processing load in relation to working memory capacity would be a good start. There has been evidence in more recent experimental study (Linck and Weiss 2015) that the ability to control cognitive processing demands in L2 might be more closely connected to the executive control component of working memory. Given that this component is an executive attentional system, another possible cognitive factor affecting interpretation processes might be attention allocation (Bialystok 1993; Segalowitz 2003; Skehan 1995, 1998; Robinson 2003).

Inferential abilities are a part of general human cognitive abilities (Taguchi 2007:328). Mindreading mechanisms are prominent automatic procedures for attributing mental states to others in order to explain and predict their behaviour (Wilson and Wharton 2006:1565). To my knowledge, only the study by Bromberek-Dyzman et al. (2010) has explored the possibility that mindreading abilities which have been already developed in one's first language operate in the processes of utterance interpretation in L2. If this possibility is confirmed, this would provide support for the idea of '*the universal pragmatic principle*' (Blum-Kulka 1991; Brown and Levinson 1987; Gumperz 1982; Kasper and Rose 2002; Leech 1983; Levinson 1983; Mey 1993) that 'specifies the discourse, pragmatic and sociolinguistic competencies that adult learners bring to the task of acquiring the pragmatics of an additional language' (Kasper and Rose 2002:308). In the field of interlanguage pragmatics, while investigating which speech acts this idea can apply to (Kasper and Rose 2002: 165-166), investigation of

'the universal pragmatic principle' have not been explored from cognitive perspective. If Bromberek-Dyzman et al. (2010) were right to suggest that mindreading abilities operate regardless of language, then it seems rational to consider that this ability would underlie *'the universal pragmatic principle.'* This would shed insight into the debate about the primacy of pragmatics over grammar (Bardovi-Harlig 1999) and the notion that L2 pragmatic ability can be seen as, in a sense, ahead of knowledge of grammar.

This thesis also suggests one pedagogical implication with regard to second language speakers' recognition of prosody. Chun (2002) points out that neither the use of intonation nor its role in communicative competence has received much attention in the field of second language acquisition. She suggests that applied linguists have overlooked the importance of intonation, referring to Brazil, Coulthard, and Johns (1980) who suggest a focus on 'what is actually done by language rather than what is said' and that 'language learners are not taught how to use intonation to signal discourse strategies' (adapted from Chun 2002: 295). This thesis suggests that language learners would benefit from work aiming to develop awareness of the role prosody plays and possibly of differences in the effects of prosodic cues in their own language and the target language.

APPENDIX

Appendix A

Information sheet, Consent form and Background information questionnaire in 'Internet survey'

- Information sheet and consent form

Please read the following information first.

This research is organised by Naoko Togame, a post graduate student at Middlesex University.

First, we will ask you to answer general questions about yourself, and then, we will ask you to read stories and respond to questions. There are 20 stories and you are asked to answer 3 questions for each story. There is no 'right' or 'wrong' answer to any of these questions.

It should take you about 15-20 minutes to complete this survey. The information you provide is vital to the success of this research project. Your information is confidential and the data gathered from your responses will be used for the purpose of academic activities such as publication or conference presentations, or used for teaching purposes. Your participation is entirely voluntary and you can withdraw your participation at any time. Your withdrawal has no negative consequences.

Should you have any questions about this survey or your participation, please do not hesitate to ask me at my e-mail;

nt272@live.mdx.ac.uk

By clicking the 'NEXT' button below you consent to the following statements:

'I have been informed about the nature of this survey and contact details for the researcher. I have consented to participate in this survey and understand that I have the right to withdraw from the research project at any time. I further understand that the data I provide will not be identifiable and may be used for academic activities only.'

- Background information questionnaire

1. Gender

- Male
 Female

2. Age

3. What is your nationality?

4. How do you describe your main occupation?

- Student
 Professional
 Other (please specify)

5. Is English your first language?

- YES
 NO

6. If English is not your first language, which language is your first language?

(If the answer is 'YES' here, the page automatically moves to question 34)

7. Are you currently living in the U.K?

- YES
 NO

(If the answer is 'NO' here, the page automatically moves to question 9)

8. How long have you been living in the U.K.?

9. Which country are you living now?

10. How long have you been living there?

11. Have you ever lived in English spoken countries before?

YES

NO

12. Which country did you live?

13. How long did you live there?

14. How do you describe your proficiency level of listening in English?

Elementary : you can deal with very limited day-to-day activities

Lower Intermediate : you can deal with predictable day-to-day activities

Intermediate : you can deal with varied familiar everyday activities

Upper Intermediate : you can deal with simple key work tasks

Advanced : you can deal with complex work tasks

bilingual or multilingual

15. How do you describe your proficiency level of reading in English?

Elementary : you can deal with very limited day-to-day activities
Lower Intermediate : you can deal with predictable day-to-day activities
Intermediate : you can deal with varied familiar everyday activities
Upper Intermediate : you can deal with simple key work tasks
Advanced : you can deal with complex work tasks
bilingual or multilingual

16. How do you describe your proficiency level of speaking in English?

Elementary : you can deal with very limited day-to-day activities
Lower Intermediate : you can deal with predictable day-to-day activities
Intermediate : you can deal with varied familiar everyday activities
Upper Intermediate : you can deal with simple key work tasks
Advanced : you can deal with complex work tasks
bilingual or multilingual

17. How do you describe your proficiency level of writing in English?

Elementary : you can deal with very limited day-to-day activities
Lower Intermediate : you can deal with predictable day-to-day activities
Intermediate : you can deal with varied familiar everyday activities
Upper Intermediate : you can deal with simple key work tasks
Advanced : you can deal with complex work tasks
bilingual or multilingual

18. How long did you study (or how long have you been learning) English?

19. Did (do) you study English in your country?

- YES
 NO

20. How did (do) you study English in your country? (as many as appropriate)

- at school
 at higher education (college/university)
 at private language school
 at home
 with native speakers
 Other (please specify)

21. Did (do) you study English outside your country?

- YES
 NO

22. How did (do) you study English outside your country? (as many as appropriate)

- at school
- at higher education (college/university)
- at private language school
- with native speakers

Other (please specify)

23. Have you ever taken IELTS test?

- YES
- NO

24. When was the last time you took IELTS test and what was your score?

	WHEN	SCORE
IELTS	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>
	within 12 months 1 to less than 3 years 3 to less than 5 years 5 to less than 10 years over 10 years	
SCORE		
	9.0	8.5
	8.0	7.5
	7.0	6.5
		6.0

25. Have you ever taken TOEIC test?

- YES
- NO

26. When was the last time you took TOEIC test and what was your score?

	WHEN	SCORE
TOEIC	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>

WHEN

within 12 months	1 to less than 3 years ago	3 to less than 5 years ago	5 to less than 10 years ago	more than 10 years ago
------------------	----------------------------	----------------------------	-----------------------------	------------------------

SCORE

940	930 to less than 940	920 to less than 930	900 to less than 920	850 to less than 900
800 to less than 850	750 to less than 800	700 to less than 750	650 to less than 700	500 to less than 650
450 to less than 500	380 to less than 450	320 to less than 380	290 to less than 320	200 to less than 290

27. Have you ever taken TOEFL test? YES NO**28. Which type of the test did you take the most recently?** paper-based computer-based internet-based**29. When did you take paper based TOEFL test and what was your score?**

	WHEN	SCORE
TOEFL: paper based	<input type="text"/>	<input type="text"/>

WHEN

within 12 months	1 to less than 3 years ago	3 to less than 5 years ago	5 to less than 10 years ago	more than 10 years ago
------------------	----------------------------	----------------------------	-----------------------------	------------------------

SCORE

675	660 to less than 675	640 to less than 660	620 to less than 640	587 to less than 620
570 to less than 587	550 to less than 570	525 to less than 550	500 to less than 525	480 to less than 500
460 to less than 480	400 to less than 460	380 to less than 400	350 to less than 380	300 to less than 350
prefer not to answer				

30. When did you take computer based TOEFL test and what was your score?

	WHEN	SCORE
TOEFL: computer based	<input type="text"/>	<input type="text"/>

WHEN

within 12 months	1 to less than 3 years ago	3 to less than 5 years ago	5 to less than 10 years ago	more than 10 years ago
------------------	----------------------------	----------------------------	-----------------------------	------------------------

SCORE

295	280 to less than 295	273 to less than 280	260 to less than 273	240 to less than 260
229 to less than 240	213 to less than 229	197 to less than 213	173 to less than 197	140 to less than 173
132 to less than 140	prefer not to answer			

31. When did you take internet based TOEFL test and what was your score?

	WHEN	SCORE
TOEFL: internet based	<input type="text"/>	<input type="text"/>

WHEN

within 12 months	1 to less than 3 years ago	3 to less than 5 years ago	5 to less than 10 years ago	more than 10 years ago
------------------	----------------------------	----------------------------	-----------------------------	------------------------

SCORE

120	117 to less than 120	112 to less than 117	105 to less than 112	95 to less than 105
89 to less than 95	80 to less than 89	71 to less than 80	61 to less than 71	50 to less than 61
40 to less than 50	30 to less than 40	20 to less than 30	10 to less than 20	prefer not to answer

32. Have you ever taken Cambridge test?

- YES
- NO

**33. When was the last time you took Cambridge test and which level did you pass?
(please answer about only the highest level you have passed.)**

	WHEN	LEVEL
CAMBRIDGE	<input type="text"/>	<input type="text"/>

WHEN

within 12 months	1 to less than 3 years ago	3 to less than 5 years ago	5 to less than 10 years ago	more than 10 years ago
---------------------	-------------------------------	-------------------------------	--------------------------------	---------------------------

SCORE

CPE	CAE	FCE	PET	KET	prefer not to answer
-----	-----	-----	-----	-----	-------------------------

34. Which computer operation system (OS) are you using to complete this survey?

- Windows
 MAC

(If the answer is 'Window', then the page automatically moves to material A group, if the answer is 'MAC', then the page automatically moves to material B group.)

(Before Irony understanding questionnaire)

You are going to read 20 short stories.

Please read the stories carefully, and respond to each question. There are 3 questions for each story.

Remember that there is no 'right' or 'wrong' answer to any of these questions.

When you are ready, please click the 'Next' button.

Appendix B

Example stories and task questions in *'Internet survey'*

1. [another drink]

Susan and Ben were drinking in a pub. Susan had noticed that Ben was already quite drunk. He had been drinking more than usual and he had become repetitious. When Ben stood up to order another, Susan shook her head and gave him a warning look. She said to him,

(explicit) *'I don't think you should drink anymore.'*

Q1. To what extent do you think Ben was drunk?

Q2. To what extent do you think Susan was worried about Ben?

Q3. To what extent do you think Susan meant what she said?

2. [shop assistant]

Erica remembered she had to get some food for tomorrow morning. She ran to her local supermarket as fast as possible. When she got there, it was just before closing time, but the shop assistant refused to let her come in. When she came back empty-handed, she said to her husband,

(tacit) *'The shop assistant very helpfully shut the door right in my face.'*

Q1. To what extent do you think Erica managed to get what she wanted?

Q2. To what extent do you think Erica was annoyed?

Q3. To what extent do you think Erica meant what she said?

3. [pizza]

Fiona and Anna ordered pizza for dinner. It was delicious. When they finished, their flat mate Joe came back. He came into the kitchen saying that he was hungry. Fiona and Anna hadn't ordered extra pizza for Joe but they offered him last two pieces. Joe said to them,

(explicit) *'That's very kind of you guys.'*

Q1. To what extent do you think Joe was hungry?

Q2. To what extent do you think Joe felt appreciated?

Q3. To what extent do you think Jo meant what he said?

4. [being late]

Jack had a reputation for being late. When Samantha and Jack arranged to meet up one evening, he said to her, 'I'll come at five. You won't have to wait.' That evening, Jack did not show up on time. It was nearly 5:45 pm. when he finally arrived. Samantha said to him,

(tacit) *'I'm so glad I didn't have to wait.'*

Q1. To what extent do you think Jack did what he said he would do?

Q2. To what extent do you think Samantha was annoyed?

Q3. To what extent do you think Samantha meant what she said?

5. [breaking the news]

Daniel, Tracy and Diana were flat mates who had lived together for long time and they had become good friends. Unknown to Diana, Daniel and Tracy had fallen in love and decided to move out. When they broke the news, Diana was furious. She screamed at them to just get out. Tracy said to them,

(explicit) *'I'm sorry this is so upsetting for you.'*

Q1. To what extent do you think Diana was angry?

Q2. To what extent do you think Tracy was sorry to disappoint Diana?

Q3. To what extent do you think Tracy meant what she said?

6. [in the corridor]

When Michel was waiting for Professor Miller in the corridor, his friend Rebecca passed by and found Michel. She rushed up to him and started telling him her terrible news. While she was still talking, Michel saw Professor Miller coming out to the corridor. Michel broke away from Rebecca and rushed off. She called after him,

(explicit) *'You are so rude.'*

Q1. To what extent do you think Michel was polite to Rebecca?

Q2. To what extent do you think Rebecca felt neglected?

Q3. To what extent do you think Rebecca meant what she said?

7. [drunk customer]

Alice and Richard were working in a local supermarket. A man came in and started complaining loudly about some broken eggs he had bought in the shop earlier. He shouted at Alice in front of some other customers, stamping his foot and shaking his fist. When he had finally gone, Alice said to Richard,

(tacit) *'He looks a bit upset.'*

Q1. To what extent do you think the man was seriously complaining?

Q2. To what extent do you think Alice was uncomfortable with the man?

Q3. To what extent do you think Alice meant what she said?

8. [job interview]

Mary had a job interview. As usual, she prepared very thoroughly for it. She was very nervous during the interview and felt it didn't go very well. When she came home, her husband John asked how it went. Mary said that she didn't think she would get the job. John said,

(explicit) ***'These things often go better than you think.'***

Q1. To what extent do you think Mary was feeling that the interview went bad?

Q2. To what extent do you think John sympathised with Mary?

Q3. To what extent do you think John meant what he said?

9. [dinner table]

Helen invited Andrew to her dinner party. When he arrived at her house, he found a lot of familiar faces there. When Andrew was called to the dinner table, however, Helen introduced the girl he had never met before and asked him if he minded sitting next to her. He said to Helen,

(explicit) ***'I'd be happy to.'***

Q1. To what extent do you think there were guests that Andrew had met before?

Q2. To what extent do you think Andrew was happy to sit next to the girl?

Q3. To what extent do you think Andrew meant what he said?

10. [World Cup]

Before the World Cup between England and Japan, English newspapers suggested that England would give Japan a beating. From the start, however, Japan controlled the match and it was obvious to the world that England was no match for them. In the end, Japan won 8-0. A fan of the Japanese team said,

(tacit) ***'England gave Japan quite a beating.'***

Q1. To what extent do you think it was a well-matched game?

Q2. To what extent do you think the Japanese fan was happy with the result of the match?

Q3. To what extent do you think the Japanese fan meant what s/he said?

11. [one of those days]

Mark had one of those days when everything went wrong. He poured coffee into his cereal instead of his mug, put on different coloured socks, and missed his train to work. When he finally arrived at his office 45 minutes late, he fell over and hurt himself quite badly. He said to himself,

(tacit) ***'I'm having a good day.'***

Q1. To what extent do you think Mark was having a good day?

Q2. To what extent do you think Mark was content with how his day had been going?

Q3. To what extent do you think Mark meant what he said?

12. [promotion]

David called home and said to his wife Cathy that he had been promoted to executive manager and offered a better salary. Cathy knew how hard he had been working for this. She prepared a lavish meal with a bottle of champagne and decorated a room with flowers and candles. When he saw everything, David said,

(explicit) *'I really appreciate you going to this trouble.'*

Q1. To what extent do you think Cathy wanted to congratulate David on his promotion?

Q2. To what extent do you think David was grateful to Cathy?

Q3. To what extent do you think David meant what he said?

13. [old drunk man]

Jenny and Will were walking down the street. When they were passing the 'Red Lion' pub, an old drunk man came out onto the street and started shouting at passers-by. He stank of alcohol and could hardly stand up. People on the street seemed annoyed and they walked quickly past him to avoid getting involved. Will said,

(tacit) *'He's a little intoxicated.'*

Q1. To what extent do you think the old man was drunk?

Q2. To what extent do you think Will believes the old man was drunk?

Q3. To what extent do you think Will meant what he said?

14. [packing]

Nick was packing in preparation for moving house. It was tiring work. He had been working non-stop since early morning and there was still much left to be packed. Rachel dropped by and said she had afternoon free. She hung out in the room watching Nick working hard. Nick said to Rachel,

(explicit) *'I wish you would help instead of just watching.'*

Q1. To what extent do you think Rachel helped Nick?

Q2. To what extent do you think Nick was upset with Rachel?

Q3. To what extent do you think Nick meant what he said?

15. [new film]

Steve asked Kate to go to see a new film. Kate was not interested in the movie but Steve said that 'Some critics said it should have won an Oscar.' Kate agreed to see the film. The film was terrible. Kate and Steve both thought it was a complete waste of money. Kate said,

(tacit) *'It really should have won an Oscar.'*

Q1. To what extent do you think the movie was bad?

Q2. To what extent do you think Kate was disappointed with the movie?

Q3. To what extent do you think Kate meant what she said?

16. [mobile phone]

Peter heard someone's mobile phone ringing while he was studying in the library. A girl sitting next to him answered and started chatting loudly. Peter shushed her, but she kept talking. Five minutes later, she was still chatting. Unable to put up with her, Peter screamed piercingly and went quiet. He turned to her and said,

(tacit) ***'I am so sorry. I do hope I didn't disturb you.'***

Q1. To what extent do you think the girl's chatting was disturbing other people in the library?

Q2. To what extent do you think Peter was annoyed with the girl's chatting over the mobile phone?

Q3. To what extent do you think Peter meant what he said?

17. [tennis match]

James and his friend Patricia went to watch Scott in a tennis match. Before the match, Scott was confident he would win. But he played terribly and lost in straight sets. At the end of the match, Scott came up to James and Patricia and said, 'I almost won.' Patricia turned to James and said,

(tacit) ***'He almost won.'***

Q1. To what extent do you think Scott played well?

Q2. To what extent do you think Patricia believed that Scott was very close to winning the match?

Q3. To what extent do you think Patricia meant what she said?

18. [help]

Tom and his friend Paul were walking towards the canteen chatting about their exam results. Tom slipped as they were going down the staircase. He tried to hold on to the handrail but lost his balance and fell down. Meanwhile, Paul just watched him and did nothing to help. Tom was embarrassed and said,

(explicit) ***'Couldn't you have done something for me?'***

Q1. To what extent do you think Paul helped Tom?

Q2. To what extent do you think Tom was embarrassed?

Q3. To what extent do you think Tom meant what he said?

19. [cold night]

One night, Harry and Emma went to the cinema. When they came out, they found the temperature had dropped dramatically. It was freezing cold and snowing heavily. On the way to the tube station, Harry and Emma felt their limbs becoming stiff with cold. When they finally arrived at the station after a long walk, Harry said,

(tacit) ***'It's a bit chilly tonight.'***

Q1. To what extent do you think it was cold that night?

Q2. To what extent do you think Harry found it cold?

Q3. To what extent do you think Harry meant what he said?

20. [French lesson]

Mathew had an audition for a play in which he had to speak French. He asked his French friend Isabelle to help him with his accent. Isabelle found the script quite simple and thought it

wouldn't take long to help him. When Mathew started to read, however, Isabelle saw him struggling. She said,

(explicit) *'It's going to take longer than I thought.'*

Q1. To what extent do you think Mathew was speaking French fluently?

Q2. To what extent do you think Isabelle was worried about how long it would take to help Mathew?

Q3. To what extent do you think Isabelle meant what she said?

(At the end of Irony understanding questionnaire)

Thank you very much for your time.

Your cooperation is greatly appreciated.

If you have any questions, please do not hesitate to contact me:

Middlesex University
School of Arts & Education
Naoko Togame
nt272@live.mdx.ac.uk

We are planning to conduct more experimental studies in near future. They will involve both on-line surveys and on-site experiments. On-site experiments will take place at either Hendon campus or Trent Park campus of Middlesex University. (We are also considering conducting our experiments in Tokyo, too.)

55. Are you interested to participate?

77. Please leave your email address here so that we can contact you.

Thank you very much. We will contact you in due course.

Appendix C

Example stories and task questions in Pilot study

Context-controlled stories

[(a) – ironical scenario]

Mary was going to fly back to New York for her Christmas holiday. Her suitcase was filled with lots of Christmas presents and books that she planned to read during the holiday. When she got to Heathrow Airport, she realised that the lifts to the departure floor were out of order. She had no choice but to take the stairs instead. While she was dragging her heavy suitcase up the crowded stairway, a young guy bumped against her and passed without saying anything. Mary said,

“That was nice.”

[(a)’ - literal scenario]

Mary was going to fly back to New York for her Christmas holiday. Her suitcase was filled with lots of Christmas presents and books that she planned to read during the holiday. When she got to Heathrow Airport, she realised that the lifts to the departure floor were out of order. She had no choice but to take the stairs instead. While she was dragging her heavy suitcase up the crowded stairway, a young guy offered to help her with her suitcase and brought it up the stairs for her. Mary said,

“That was nice.”

-Test Question for (a) and (a)’

Does Mary believe that the young guy’s behaviour was nice?

YES / NO / I DON’T KNOW

[(b) – ironical scenario]

When Peter was at home in his flat, there was a buzz at the front door. As soon as he opened the door, Mary jumped inside speaking rather loudly, “You won’t believe what happened to me at work...” Peter closed the door behind her and said,

“Would you like to come in?”

[(b)’ - literal scenario]

When Peter was at home in his flat, there was a buzz at the front door. When he opened the door, he found Mary standing there. She looked upset and she grumbled, “You won’t believe what happened to me at work...” Peter said,

“Would you like to come in?”

-Test Question for (b) and (b)’

Does Peter want Mary to come into his house?

YES / NO / I DON’T KNOW

[(c) - ironical scenario]

Mary was trying to sell her house. The day before the first viewing, she asked her flat mate John to clean up his room. "Morning John. I'm just off to work. Some people are coming to view the house tomorrow. I've already cleaned up the living room and the kitchen. Could you do your bedroom before you leave tonight?" John said, "No problem, Mary. I'll make sure I do it before I go." When Mary came back home, she found that John hadn't cleaned up his room and that he had even made more of a mess in the living room. Mary said,

"This is great!"

[(c)' - literal scenario]

Mary was trying to sell her house. The day before the first viewing, she asked her flat mate John to clean up his room. "Morning John. I'm just off to work. Some people are coming to view the house tomorrow. I've already cleaned up the living room and the kitchen. Could you do your bedroom before you leave tonight?" John said, "No problem, Mary. I'll make sure I do it before I go." When Mary came back home, she found that John had not only cleaned up his room but also left some fresh flowers on the living room table. Mary said,

"This is great!"

-Test Question for (c) and (c)'

Does Mary believe that what John has done is great?

YES / NO / I DON'T KNOW

Neutral context stories

[(d)-neutral context]

Peter worked in the customer service centre of a mobile phone company. Because of a recent recession, the company was trying to reduce costs and switch off the central heating system unless the temperature was below zero. There were lots of complaints from staff. As a staff representative, Peter arranged a meeting with managers and several of his colleagues. After the meeting, Peter said to his colleagues,

"That went well."

-Test Question for (d)

Does Peter believe that the meeting went well?

YES / NO / I DON'T KNOW

[(e)-neutral context]

Mary and Peter were having a dinner party at the weekend. Mary was in charge of the dinner menu and Peter drew up the guest list. When Peter showed Mary the list of people he was planning to invite to the party, Mary said,

"I see, you're inviting Susie. That's an excellent idea, darling!"

-Test Question for (e)

Does Mary believe that inviting Susie to the party is an excellent idea?

YES / NO / I DON'T KNOW

Distracter stories

[(f)-distracter]

Mary was 16-weeks pregnant. One day, Mary went to the hospital to have an ultrasound scan and overall check-up. After the check-up was finished, the doctor said to Mary, "All your tests look fine. Are you interested in knowing the sex of the baby? I could tell you whether it's a boy or a girl right now." Mary said to the doctor,

"Thank you, doctor, but I'd rather wait."

-Test Question for (f)

Does Mary want to know the sex of the baby before the baby is born?

YES / NO / I DON'T KNOW

[(g)-distracter]

Mary and Peter were having dinner together and telling each other how the day had been. Mary said, "I had a very strange conversation with John today. He was talking about money, rules, and friends. It didn't make any sense. I have absolutely no idea what he was talking about."

Peter said,

"I had the exact same conversation with him yesterday, too!"

-Test Question for (g)

Does Peter mean that he had the same conversation with John?

YES/ NO / I DON'T KNOW

[(h)-distracter]

One Sunday afternoon, Susie was about to cook dinner for her husband Mark and herself. She hadn't decided what to cook. Looking inside the fridge, she asked Mark, "What do you fancy for dinner?" Mark said,

"Anything will do for me, Susie."

- Test Question for (h)

Does Mark have any preference for dinner?

YES / NO / I DON'T KNOW

[(j)-distracter]

Alice was in her room with her friend, Peter. She was picking a dress she would wear for a business meeting the next day. She showed him a blue dress and a brown suit and asked, "Which one do you think I should wear tomorrow?" Peter looked at her in the mirror and said,

"I think the blue outfit looks better on you."

-Test Question for (j)

Does Peter believe that the blue outfit looks better on Alice?

YES / NO / I DON'T KNOW

[(k)-distracter]

Susie and Peter were in a pub having a drink. When Peter realised that Susie's glass was empty, he asked, "Do you want the same again?" Susie shook her head and said,

"No, thanks. I've got to go soon."

-Test Question for (k)

Does Susie want another drink?

YES / NO / I DON'T KNOW

[(l)-distracter]

Kate and Mark had just started to learn Russian together. Neither of them had ever learned it before. After the first class, they stopped for a coffee. Kate said to Mark, "It was tough, wasn't it?" Mark nodded and said,

"It was really tough."

-Test Question for (l)

Does Mark believe that the first class was tough?

YES / NO / I DON'T KNOW

[(m)-distracter]

Mary was running a bath, when her husband Peter came back from work. He saw her and asked, "Are you having a bath now?" Mary said, "Yeah, can you wait for dinner until I've finished?" Peter said,

"No, problem."

- Test Question for (m)

Can Peter wait for dinner until Mary's finished a bath?

YES / NO / I DON'T KNOW

[(n)-distracter]

John and Susie were taking down Christmas decorations in the living room. John took the tree outside and Susie was putting the lights and ornaments into a box. When he came back inside, she asked, "Where should I put these boxes, John? All the cupboards are nearly full." He said, "How about the attic? I'm sure there is some space in there." Susie said,

"OK, I'll put these boxes in there."

-Test Question for (n)

Does Susie mean that she will put the boxes in the attic later?

YES / NO / I DON'T KNOW

Sample of answer sheet used in Pilot study

“Conversation Comprehension” Pilot Test

ANSWER SHEET

Question 1	Y E S / N O / I D O N ' T K N O W
Question 2	Y E S / N O / I D O N ' T K N O W
Question 3	Y E S / N O / I D O N ' T K N O W
Question 4	Y E S / N O / I D O N ' T K N O W
Question 5	Y E S / N O / I D O N ' T K N O W
Question 6	Y E S / N O / I D O N ' T K N O W
Question 7	Y E S / N O / I D O N ' T K N O W
Question 8	Y E S / N O / I D O N ' T K N O W
Question 9	Y E S / N O / I D O N ' T K N O W
Question 10	Y E S / N O / I D O N ' T K N O W
Question 11	Y E S / N O / I D O N ' T K N O W
Question 12	Y E S / N O / I D O N ' T K N O W

Appendix D

Sample of informed consent sheet in pilot study



INFORMED CONSENT FORM:

[Conversation comprehension pilot-testing]

Please read

Thank you very much for agreeing to take part in this conversation comprehension pilot test. Your contribution is much appreciated.

Middlesex University requires that everyone who participates in research studies gives their written consent to do so. Please read the following and sign it if you agree with what it says.

I freely and voluntarily consent to be a participant in the research project on the topic of conversation comprehension to be conducted by Naoko TOGAME as principal investigator, who is a postgraduate student in the School of Arts & Education at Middlesex University. The broad goal of this research study is to explore how people understand what the speaker is trying to communicate with her interlocutor(s). Specifically, I have been asked either to listen to the tape or to read the scripts, and answer the questionnaire, which should take no longer than 30 minutes to complete.

I have been told that my responses will be kept strictly confidential. I also understand that if at any time during the testing session I feel unable or unwilling to continue, I am free to leave. That is, my participation in this study is completely voluntary, and I may withdraw from it at any time without negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. My name will not be linked with the research materials, and I will not be identified or identifiable in any report subsequently produced by the researcher. The data gathered from my responses might be shown for academic activities such as publication or conference presentations or used for teaching purposes. I understand that if the University wishes to use the data for any other purpose, I will be asked again for my permission in writing.

I have been given the opportunity to ask questions regarding the procedure, and my questions have been answered to my satisfaction. I have been informed that if I have any general questions about this project, I should feel free to contact Naoko TOGAME at her e-mail address (nt272@live.mdx.ac.uk).

I have read and understand the above and consent to participate in this study. My signature is not a waiver of any legal rights. Furthermore, I understand that I will be able to keep a copy of the informed consent form for my records.

Participant's Signature

Date

Address*

*You need only provide your address if you are willing to be approached for further permission should the University need the data of your test for any additional purpose.

I have explained and defined in detail the research procedure in which the respondent has consented to participate. Furthermore, I will retain one copy of the informed consent form for my records.

Principal Investigator Signature

Date

Appendix E

Listening Comprehension Test (LCT)

Trial 1 [party invitation]

Story:

Alice and Tom were planning a dinner party at the weekend. Tom said to Alice that it'd be nice to invite Susie to the party.

Neutral context:

Susie was working with Tom so he knew she'd be free at the weekend.

Consistent context:

Susie was their friend who always looked after their daughter at weekends.

Inconsistent context:

Susie was a difficult neighbour who often got drunk and picked fights at parties.

Filler:

Tom started checking on the Internet for recipes of tiramisu which he planned to make for the party.

Target utterance:

Alice said to Tom,

"It's a great idea to invite Susie."

Question 1

Was Alice happy to invite Susie to their party?

YES/NO

Question 2

Which one of the following best describes what Alice meant by the final utterance?

Alice meant that _____

- (1) Tom was stupid to think Susie would be delighted to come to the party.
- (2) Tom was crazy to think it would be a nice idea to invite Susie to the party.
- (3) Susie will be annoyed.
- (4) it would be lovely if Susie could come to the party.

Question 3

What happened in this story?

- (1) Tom and Alice were planning a dinner party.
- (2) Tom was planning not to invite Susie.
- (3) Tom and Alice were planning to go out for dinner.
- (4) Tom was planning to make roast chicken for the party

Trial 2 [promise]

Story:

Samantha was worried that Jack would be late as usual for the meeting that she was organising. Jack told Samantha that he would not be late this time.

Neutral context:

Jack brought his new iPad to the meeting.

Consistent context:

Jack arrived just before the meeting started.

Inconsistent context:

Jack was 30 minutes late for the meeting.

Filler:

When Jack came into the room, Samantha was sitting in the front row with her friends.

Target utterance: Samantha said,

"He is right on time."

Question 1

Was Samantha pleased with Jack when he arrived?

YES/NO

Question 2

Which one of the following best describes what Samantha meant by the final utterance?

Samantha meant that _

- (1) she was pleased that Jack wasn't late for the meeting.
- (2) it was about time that Jack had attended the meeting.
- (3) she was pleased that Jack knew exactly what the meeting was about.
- (4) it was silly of her to believe that Jack would come on time.

Question 3

What happened in this story?

- (1) Samantha promised Jack that she wouldn't be late for the meeting.
- (2) Jack promised Samantha that he would present his work at the meeting.
- (3) Jack promised Samantha that she would have time for presentation at the meeting.
- (4) Jack promised Samantha that he wouldn't be late for the meeting.

Trial 3 [party preparation]

Story:

Cathy had to prepare for a dinner party all by herself because her husband David had gone golfing. All his guests enjoyed the dinner and they thanked David for his hospitality when they left.

Neutral context:

David said to them, "Thanks for coming. Have a safe trip home."

Consistent context:

David said to them, "In fact, it's my wife we have to thank."

Inconsistent context:

David said to them, "My pleasure. It was no big deal."

Filler:

David came back to the kitchen and asked Cathy for a bottle of water.

Target utterance:

Cathy, giving him the water, said,

"All right, it was no big deal."

Question 1

Was Cathy content with what David said to the guests at the end of the party?

YES/NO

Question 2

Which one of the following best describes what Cathy meant by the final utterance?

Cathy meant that _____

- (1) Cathy was pleased that David appreciated her effort for preparing the dinner party.
- (2) it was not a big deal for the guests to have a safe trip home.
- (3) it was a big deal for her to give him water.
- (4) David should have thanked her for all the trouble she went to for the dinner party.

Question 3

What happened in this story?

- (1) David left Cathy alone to prepare for the dinner party.
- (2) David went to the cinema.
- (3) David helped Cathy to prepare for the dinner party.
- (4) David did shopping for the dinner party.

Trial 4 [broken leg]

Story:

Mike had broken his leg and came back home in pain. When his flat mate Emma came back, he lay down on a sofa in the living room.

Neutral context:

Emma asked Mike if he wanted to eat some Chinese food with her.

Consistent context:

Emma asked Mike what had happened to his leg and how he was feeling.

Inconsistent context:

Emma started telling Mike how stressful her day was and went back to her room.

Filler:

Mike sat down on the sofa and took out a bottle of water to take with his painkiller.

Target utterance:

Mike said,

"My leg is really hurting. Thanks for asking."

Question 1

Was Mike grateful for Emma's attitude to his broken leg?

YES/NO

Question 2

Which one of the following best describes what Mike meant by the final utterance?

Mike meant that _____

- (1) it was nice of Emma to notice his injury and ask him how he was.
- (2) it was nice of Emma to offer him Chinese food.
- (3) Emma was inconsiderate not to care what had happened to him.
- (4) he was feeling better after lying down on a sofa.

Question 3

What happened in this story?

- (1) Mike asked Emma how her day had been.
- (2) When Emma saw Mike in the living room, he was in pain because of the injury to his leg.
- (3) Emma had injured her leg and she was eating Chinese food in the living room.
- (4) Mike bought Chinese food and asked Emma if she wanted some.

Trial 5 [country of gentlemen]

Story:

Peter had always told Mana that England was a country of gentlemen and he was very proud of being English. One day, Mana was taking her heavy suitcase up the crowded stairs at a tube station in London.

Neutral context:

A young man came down the stairs and stopped a member of staff.

Consistent context:

A young man offered to bring her suitcase up the stairs for her.

Inconsistent context:

A young man pushed her aside angrily and carried on without saying anything.

Filler:

Mana got to the top of the stairs and looked for the main exit to the high street.

Target utterance:

Mana said,

"England is the country of true gentlemen."

Question 1

Was Mana impressed by the young man on the stairs?

YES/NO

Question 2

Which one of the following best describes what Mana meant by the final utterance?

Mana meant that _____

- (1) it was true that English men were very tall.
- (2) it was absurd of Peter to believe that England was a country of gentlemen.
- (3) it was true that London tube stations were crowded.
- (4) Peter was right about English men.

Question 3

What happened in this story?

- (1) Peter told Mana that England is a multicultural country.
- (2) Peter told Mana that England was a country of gentlemen.
- (3) Peter told Mana that tube stations in London were very crowded.
- (4) Mana found a tube station crowded and saw many men in hurry.

Trial 6 [union meeting]

Story:

Ben was a union representative at work. Before a union meeting with his employers, other members of the union told Ben that the meeting would go well.

Neutral context:

The meeting was about a pay rise.

Consistent context:

The employers agreed the pay rise.

Inconsistent context:

The employers refused the pay rise.

Filler:

Ben went back to his desk and started to write a report of the meeting.

Target utterance:

Ben said,

"That went well."

Question 1

Did Ben feel satisfied with the outcome of the meeting?

YES/NO

Question 2

Which one of the following best describes what Ben meant by the final utterance?

Ben meant that _____

- (1) the meeting was attended by 15 union members and 3 employers.
- (2) the meeting was successful.
- (3) it was stupid of him to expect that the meeting would go well as the other members had said.
- (4) his report would be good.

Question 3

What happened in this story?

- (1) Before the meeting, the other members of the union said that it would not go well.
- (2) Before the meeting, Ben said that it would go well.
- (3) Before the meeting, the employers of the company assured Ben that it would go well.
- (4) Before the meeting, the other members of the union said that it would go well.

Trial 7 [pizza delivery]

Story:

Nick was on the phone when his pizza was delivered. His flat mate Simon answered the door and brought it into the kitchen.

Neutral context:

When Nick went into the kitchen, he saw Simon talking with another flat mate Johnny.

Consistent context:

When Nick went into the kitchen, he saw Simon setting a table for him.

Inconsistent context:

When Nick went into the kitchen, he saw that Simon had finished all the pizza.

Filler:

Nick looked at his watch and saw how long he had been talking on the phone.

Target utterance:

Nick said,

"That's very kind of you, Simon."

Question 1

Was Nick pleased with Simon?

YES/NO

Question 2

Which one of the following best describes what Nick meant by the final utterance?

Nick meant that _____

- (1) it was unbelievable that Simon had eaten the pizza without asking him.
- (2) it was rude of Simon not to finish the pizza.
- (3) it was nice of Simon to take care of the pizza for him.
- (4) it was nice of Simon not to ask him who he was talking to on the phone.

Question 3

What happened in this story?

- (1) Simon answered the door and brought Nick's pizza into the kitchen.
- (2) Simon took the pizza into his bedroom.
- (3) Nick brought his pizza into the living room.
- (4) Simon ignored the pizza delivery.

Trial 8 [tell-the-truth]

Story:

Tracey really liked Daniel but she didn't know that her best friend Anna was dating him. When Daniel and Anna decided to tell Tracey the truth, Daniel told Anna that Tracey would understand.

Neutral context:

Anna broke the news that she and Daniel were in love when she saw Tracey at the university.

Consistent context:

Tracey was calm and wished her luck when Anna broke the news that she and Daniel were in love.

Inconsistent context:

Tracey became really angry and shouted at Anna when Anna broke the news that she and Daniel were in love.

Filler:

Anna left Tracey alone and called Daniel to tell him how Tracey had taken the news.

Target utterance:

Anna said,

"I'm really pleased she took it so well."

Question 1

Was Anna relieved to see how Tracey reacted to the news?

YES/NO

Question 2

Which one of the following best describes what Anna meant by the final utterance?

Anna meant that _____

- (1) she was pleased that Tracey was not upset about the news.
- (2) she was relieved to know that Tracey was not interested in Daniel.
- (3) it was stupid of her to believe what Daniel had said.
- (4) it was good that Tracey was very well.

Question 3

What happened in this story?

- (1) Anna thought that Daniel should tell Tracey that he did not like her.
- (2) Daniel thought that Tracey would be very upset if she knew he and Anna were in love.
- (3) Tracey knew that Anna and Daniel were in love.
- (4) Anna and Daniel decided to tell Tracey that they were in love.

Trial 9 [clean-up]

Story:

Mary asked her flat mate William to clean up his room before their landlord's visit the next day. William said that he would clean up before he went to work.

Neutral context:

When Mary came back home, with her coat still on she went straight into William's room to check whether he had cleaned up as he promised.

Consistent context:

When Mary came back home, she found that William had not only cleaned up his room but had also left some fresh flowers on the living room table.

Inconsistent context:

When Mary came back home, she found that William hadn't cleaned up his room and that he had even made more of a mess in the living room.

Filler:

Mary went into the kitchen to clean up and then made a cup of tea.

Target utterance:

Mary said,

"He's done a great job."

Question 1

Was Mary grateful to William for what he did?

YES/NO

Question 2

Which one of the following best describes what Mary meant by the final utterance?

Mary meant that _____

- (1) it was unbelievable that William didn't keep his promise to clean up his room.
- (2) it was great that William made their house look better for the landlord's visit.
- (3) it was great that William had a broken chair repaired.
- (4) it was great that William was not home yet.

Question 3

What happened in this story?

- (1) William promised Mary that he wouldn't be at home while their landlord was visiting.
- (2) William promised Mary that he would clean up the bathroom.
- (3) William promised Mary that he would clean up his room.
- (4) William promised Mary that he would put some flowers in the living room.

Trial 10 [new girlfriend]

Story:

Jack really wanted to impress his new girlfriend Penny and asked his best friends Marcus and Thomas to tell her how great he was. Marcus said that Jack could trust him as his best friend.

Neutral context:

When Jack introduced Penny to them, Marcus told her about the economy.

Consistent context:

When Jack introduced Penny to them, Marcus told her how nice Jack was.

Inconsistent context:

When Jack introduced Penny to them, Marcus told her embarrassing stories about Jack.

Filler:

After Penny left, Marcus started watching TV in the living room and Jack went upstairs with Thomas.

Target utterance:

Jack said to Thomas,

“Super! That’s what friends are for.”

Question 1

Was Jack thankful for what Marcus told to Penny?

YES/NO

Question 2

Which one of the following best describes what Jack meant by the final utterance?

Jack meant that _____

- (1) friends should always tell the truth in order to help each other.
- (2) it was nice of Marcus to lie to Penny.
- (3) it was very helpful of Marcus to behave like his best friend in front of Penny.
- (4) it was silly of him to believe that Marcus would behave like his best friend.

Question 3

What happened in this story?

- (1) Jack asked his friends Marcus and Thomas to tell his new girlfriend about their jobs.
- (2) Jack asked his friends Marcus and Thomas not to talk to his new girlfriend.
- (3) Jack asked his friends Marcus and Thomas to tell his new girlfriend good things about himself.
- (4) Jack asked his friends Marcus and Thomas to tell his new girlfriend about the economy.

Trial 11 [ballet competition]

Story:

When Jenny was nervously waiting for her turn at the international ballet competition, her friend Hugo told her that Jenny's competitor Kate was a very good dancer.

Neutral context:

Kate danced first and began with a solo.

Consistent context:

Kate danced first and was very graceful.

Inconsistent context:

Kate danced first and fell down several times.

Filler:

After her performance, Jenny saw Kate's coach came to talk to her and they spoke for a while.

Target utterance:

Jenny said,

"She is pretty good."

Question 1

Did Jenny think that her competitor is a good dancer?

YES/NO

Question 2

Which one of the following best describes what Jenny meant by the final utterance?

Jenny meant that _____

- (1) it was silly of Hugo to suggest that her competitor was a good dancer.
- (2) it made her more nervous to see how good her competitor was.
- (3) her competitor was a good person.
- (4) she was disappointed to see her competitor dance badly.

Question 3

What happened in this story?

- (1) Hugo told Jenny how long her competitor had practiced ballet for.
- (2) Hugo told Jenny that there was no need to worry about her competitor.
- (3) Hugo told Jenny that her competitor was a good dancer.
- (4) Hugo told Jenny that her competitor wouldn't be able to dance because of her injury.

Trial 12 [cold weather]

Story:

Harry showed up to go hiking with big thick clothes including a woolly hat and gloves. He told Nancy that the weather would be getting colder in the afternoon.

Neutral context:

After lunch, they packed up and carried on hiking.

Consistent context:

After lunch, the temperature suddenly dropped and it started snowing.

Inconsistent context:

After lunch, it stayed really warm and it felt like spring.

Filler:

They decided to take a short break and sat down on the bench near a lake.

Target utterance:

Nancy said,

"It did turn out so cold."

Question 1

Did the weather in the afternoon surprise Nancy?

YES/NO

Question 2

Which one of the following best describes what Nancy meant by the final utterance?

Nancy meant that ____

- (1) it was silly of her not to put on thick clothes.
- (2) it was surprising that the weather had changed so quickly.
- (3) it was surprising that the weather stayed good in the afternoon.
- (4) it was silly of Harry to believe the weather forecast and put on too much clothes.

Question 3

What happened in this story?

- (1) Harry put on warm clothes believing that the weather would get colder.
- (2) Harry put on light clothes even though the weather forecast had predicted cold weather.
- (3) Nancy put on warm clothes believing that the weather would get colder.
- (4) Harry believed that the weather would get warmer.

Trial 13 [British Airways]

Story:

Steven told his wife Rachel that he had booked a flight with British Airways for their summer holiday. Rachel became upset and told him that she always had problems with British Airways.

Neutral context:

At the airport they noticed that they were in good time and checked in their luggage at the counter straight away.

Consistent context:

At the check-in counter they were told that their flight was cancelled and there were no more flights on that day.

Inconsistent context:

At the check-in counter they were told that their seats had been selected for a free upgrade to the First Class service.

Filler:

They went to one of the cafes in the airport and had a cup of coffee.

Target utterance:

Steven said,

"British Airways always gives you a problem."

Question 1

Did Steven agree with Rachel that the service of British Airways was not good?

YES/NO

Question 2

Which one of the following best describes what Steven meant by the final utterance?

Steven meant that ____

- (1) Steven felt threatened by British Airways.
- (2) it was silly that Rachel had overreacted to travelling with British Airways.
- (3) it was very difficult to book the flight with British Airways.
- (4) travelling with British Airways was a mistake as Rachel had said.

Question 3

What happened in this story?

- (1) Steven did not book a flight with British Airways.
- (2) Steven did not want to travel with British Airways.
- (3) Rachel had always travelled with British Airways.
- (4) Rachel had had bad experiences with British Airways before.

Trial 14 [tennis match prediction]

Story:

Ted and Dean were watching the men's singles final at Wimbledon. Dean said to Ted that the match would be difficult for Federer because Federer had twisted his wrist.

Neutral context:

During the match the score remained even and it wasn't clear who was going to win until the final set.

Consistent context:

During the match it was clear to everyone that Federer was struggling and he lost in straight sets.

Inconsistent context:

During the match there was no sign that Federer had a problem and he won in straight sets.

Filler:

People became very excited and gave the winner lots of applause at the end of the match.

Target utterance:

Ted said,

"It was really hard for Federer to win."

Question 1

Did Ted think that it was amazing that Dean had predicted the outcome of the match correctly?

YES/NO

Question 2

Which one of the following best describes what Ted meant by the final utterance?

Ted meant that _____

- (1) it was not fair that Federer had to play with his injury.
- (2) it was silly of Dean to predict that it would be hard for Federer to win.
- (3) it was surprising that Federer lost the match as Dean had predicted.
- (4) Federer should not have given up the match.

Question 3

What happened in this story?

- (1) Dean told Ted that Federer would win the match in spite of his injury.
- (2) Dean told Ted that Federer would win the match in straight sets.
- (3) Dean told Ted that Federer would not win the match easily because of his injured wrist.
- (4) Dean told Ted that he doubted Federer would lose the match.

Trial 15 [conference presentation]

Story:

Todd was nervous just before his first presentation at an international conference. While he was waiting outside the room, the woman who organised the conference came up to him.

Neutral context:

She said that Todd would have 20 minutes for his talk and 10 minutes for questions.

Consistent context:

She said that Todd shouldn't worry about anything because people were very friendly and supportive.

Inconsistent context:

She said that there were about three hundred people waiting inside for his talk.

Filler:

Todd looked at a clock on the wall and opened his notebook one more time.

Target utterance:

Todd said,

"That's good to know."

Question 1

Did Todd think that the organizer helped him to relax?

YES/NO

Question 2

Which one of the following best describes what Todd meant by the final utterance?

Todd meant that _____

- (1) the organizer had helped to make him feel better.
- (2) it was a relief that his friends were inside.
- (3) the organizer had not helped to make him feel better.
- (4) it was a relief to know exactly how much longer he would have to wait.

Question 3

What happened in this story?

- (1) Todd became bored while waiting to present his work at the conference.
- (2) Todd was waiting nervously to present his work at the conference.
- (3) Todd asked the organizer of the conference when he could go inside.
- (4) Todd was practicing his presentation while he was waiting.

Trial 16 [Justin Bieber concert]

Story:

Jennifer and Lilly invited Fiona to go to Justin Bieber's concert with them. Fiona told them that she really loved Justin Bieber.

Neutral context:

As soon as they saw Justin Bieber on the stage, all the girls started screaming out loud and tried to reach him.

Consistent context:

As soon as they saw Justin Bieber on the stage, Fiona pushed over Jennifer and moved forward to reach the front row.

Inconsistent context:

As soon as they saw Justin Bieber on the stage, Fiona said she was tired and went home for an early bed.

Filler:

A girl next to them became over-excited and fell down on the floor.

Target utterance:

Jennifer said to Lilly,

"Fiona really loves Justin Bieber."

Question 1

Did Jennifer think Fiona was a big fan of Justin Bieber?

YES/NO

Question 2

Which one of the following best describes what Jennifer meant by the final utterance?

Jennifer meant that ___

- (1) it was not surprising that Fiona went home early.
- (2) she did not believe that Fiona really loved Justin Bieber.
- (3) it was nice of Fiona to come to the concert with them.
- (4) she understood very well how much Fiona loved Justin Bieber.

Question 3

What happened in this story?

- (1) When she was invited to go to a Justin Bieber concert Fiona said that it would be a waste of time.
- (2) When she was invited to go to a Justin Bieber concert Fiona said that she was not interested.
- (3) When she was invited to go to a Justin Bieber concert Fiona said that she really loved him.
- (4) When she was invited to go to a Justin Bieber concert Fiona said that she had already bought a ticket for herself.

Trial 17 [hard life in London]

Story:

Helen always complained that her life in London was really hard. Her father Philip became worried about his daughter and decided to visit her.

Neutral context:

Philip learned that Helen lived in North London and travelled to her office in Central London.

Consistent context:

Philip learned that Helen worked until late every night and worked at some weekends too.

Inconsistent context:

Philip learned that Helen always ate out at expensive restaurants and went to theatres every weekend.

Filler:

Philip went to Helen's office and they went out for dinner after Helen finished her work.

Target utterance:

Philip said,

"I see how hard your London life is."

Question 1

Was Philip showing his sympathy towards Helen?

YES/NO

Question 2

Which one of the following best describes what Philip meant by the final utterance?

Philip meant that _____

- (1) it was true that Helen's life in London was really hard and it was worrying.
- (2) it seemed that London was a nice place for tourists to visit.
- (3) Helen's life in London did not seem as hard as she said.
- (4) it seemed that London was a boring place to live.

Question 3

What happened in this story?

- (1) Helen told her father Philip that her job was not well paid.
- (2) Helen told her father Philip that her boss was not nice to her.
- (3) Helen told her father Philip that her flat was too small.
- (4) Helen told her father Philip that her life in London was hard.

Trial 18 [Nobel Prize]

Story:

Bob was confident that he was an excellent scientist who deserved a Nobel Prize.

Neutral context:

One evening Bob's friend Jim saw Bob still working hard in his laboratory trying to prove that his theory was right.

Consistent context:

One evening Bob's friend Jim saw Bob hearing the exciting news from university that he had been nominated for a Nobel Prize.

Inconsistent context:

One evening Bob's friend Jim heard the news that Bob got an electric shock from using a hair dryer in the bathroom.

Filler:

Jim went to the pub in a hurry and told the news to his friends.

Target utterance:

Jim said,

"Bob is being nominated for a Nobel Prize."

Question 1

Did Jim believe that Bob deserved a Nobel Prize?

YES/NO

Question 2

Which one of the following best describes what Jim meant by the final utterance?

Jim meant that _____

- (1) it may be possible that Bob would win a Nobel Prize one day.
- (2) it was great that Bob was nominated for a Nobel Prize.
- (3) it was likely that Bob would be on TV soon.
- (4) it was silly of Bob to believe that he was intelligent enough to deserve a Nobel Prize.

Question 3

What happened in this story?

- (1) Bob was a very confident scientist and he believed that he would be awarded a Nobel Prize one day.
- (2) Bob's scientific work was not great and he would never receive a Nobel Prize.
- (3) Bob was a very confident scientist and he looked down on his colleagues.
- (4) Bob was not confident in his scientific work and his colleagues always helped his work.

Appendix F

Sample of Information sheet



Information about the study
CONVERSATION COMPREHENSION TEST

Naoko TOGAME

You are being invited to take part in a research study. Before you decide to participate, it is important for you to understand why the research is being done and what it will involve. Please take your time to read the following information carefully, and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

The broad goal of this study is to explore how people understand the meaning of what a speaker did or did not say in conversation.

The study involves two tests; first, you will hear a voice reads you a short phrase twice. Then we will ask you to decide whether the first playback and the second playback sound the same or different. Next you will be asked to listen to the tape of short stories followed by questions and to indicate your answers. Some of you may be asked to take both of the tests and others may be asked to take the second test only.

It should take you about 30 minutes to listen to all the tapes and respond to all the questions.

This study presents no risks or disadvantages to you. The responses you are going to provide is confidential and the data gathered from your responses is going to be used only for academic activities such as publication or conference presentations or used for teaching purposes. Your participation is anonymous and entirely voluntary. You do not have to take part if you do not wish. If you decide to take part you can withdraw your participation at any time without giving reason, which gives you no negative consequences.

All proposals for research using human participants are reviewed by an Ethics Committee before they can proceed. This proposal has been reviewed by the Ethics Committee in the School of Media and Performing arts (former School of Arts and Education) and the Psychology Department's Ethics Committee at Middlesex University.

Should you have any questions about this study or your participation please do not hesitate to ask the researcher conducting the study.

Thank you for your time to read this information.

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Sample of Consent form



WRITTEN INFORMED CONSENT CONVERSATION COMPREHENSION TEST

Naoko TOGAME

Please read

Thank you very much for agreeing to take part in this conversation comprehension test. Your contribution is much appreciated.

Middlesex University requires that everyone who participates in research studies gives their written consent to do so. Please read the following and sign it if you agree with what it says.

I have understood the details of the research as explained to me by the researcher, and confirm that I have consented to act as a participant.

I have been told that I will be given the opportunity to ask questions regarding the procedure before the actual testing session starts, and my questions will be answered to my satisfaction. I have also been told that my responses will be kept strictly confidential. I understand that if at any time during the testing session I feel unable or unwilling to continue, I am free to leave. That is, my participation in this study is entirely voluntary, and I may withdraw from it at any time without any obligation to explain my reasons for doing so. In addition, should I not wish to answer any particular question or questions, I am free to decline. I further understand that my name will not be linked with the research materials, and I will not be identified or identifiable in any report subsequently produced by the researcher. The data gathered from my responses might be shown for academic activities such as publication or conference presentations or used for teaching purposes. If the University wishes to use the data for any other purpose, I will be asked again for my permission in writing.

I have been given contact details for the researcher in the information sheet and I have been informed that if I have any general questions about this project, I should feel free to contact Naoko Togame at her e-mail address (nt272@live.mdx.ac.uk).

I have read and understand the above and consent to participate in this study. My signature is not a waiver of any legal rights. Furthermore, I understand that I will be able to keep a copy of the informed consent form for my records.

Participant's Signature

Date

Email address*

I have explained and defined in detail the research procedure in which the respondent has consented to participate. Furthermore, I will retain one copy of the informed consent form for my records.

A handwritten signature in black ink, appearing to read "N. Togame".

Principal Researcher Signature

Date

Sample of Debriefing sheet

Debriefing sheet

CONVERSATION COMPREHENSION TEST

Thank you very much for your participation. Your contribution is much appreciated.

The researcher would like to offer a debriefing now, but if you wish not to be debriefed, you can leave now without any further discussion.

The main purpose of this study was to see how tone of voice would affect your interpretation of what a speaker meant. Depending on tone of voice that a speaker uses, interpretation may differ. We are very interested to know to what extent tone of voice helped you understand the speaker's attitude, such as being happy, annoyed, pleased, relived, and so on. At the same time we wanted to see whether or not contexts of the stories are more helpful than tone of voice to infer what the speaker meant. Another purpose of the study was to how much you remembered the contents of the stories after a certain period of time.

You may have noticed that the tone of voice that the speaker spoken with in some stories was very confusing considering its context. That was just manipulation of stimuli, so you shouldn't worry if you were confused or you were not sure about your answer.

If you wish to discuss the details of this study more, please do not hesitate to ask the researcher now or you can contact her later by email. The researcher is happy to offer you further information about the study. You can find the researcher's contact in the information sheet.

Appendix G

Processing speed

Data analysis: Response trend in processing speed was examined by measuring reaction times (RTs) to the ‘attitude’ question. Reaction time was measured in milliseconds from the onset of each stimulus (the target utterance) to the instant when the response button was pressed. The data were screened for outliers before statistical analysis. Outliers were defined as being (a) a score less than 2000 milliseconds cut-off point (a miss) or/and (b) a score exceeding two standard deviations above the mean score of each participant under a given condition. These outliers were replaced with the participant’s mean score. Given that this experiment did not investigate response accuracy but response trend, a speed-accuracy trade-off analysis was not performed.

Distributions of response time were found not to meet underlying assumptions (i.e., normality, homogeneity of variance) according to the Mauchly’s tests of sphericity. Several attempts (trimming outliers, using robust method, i.e., bootstrapping) were made in order to reduce the biases, but reaction times scores remained abnormal. This raises the possibility that these statistical analyses may be prone to Type I error. Hence, lower-bound estimates correcting the *df* were used in all analyses. Non-parametric tests were used along with parametric tests for analyses of the data.

Results: Figure App.G.1 below illustrates mean reaction time to the ‘attitude’ question under each of the nine conditions comparing mean scores of immediate echoing variables with those of distant echoing variables. The top plot displays mean RTs of JP-participants and the bottom plot displays those of BNS-participants.

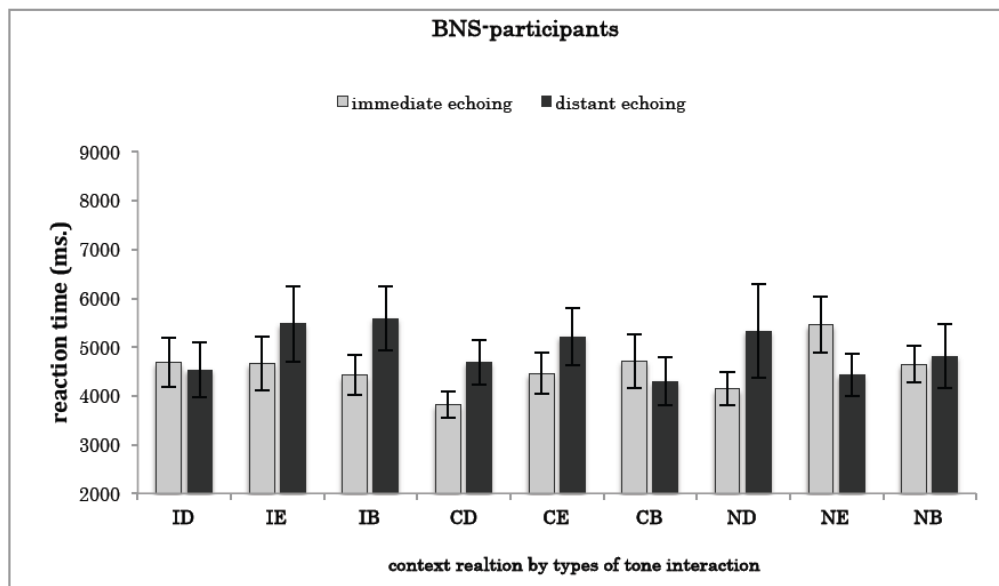
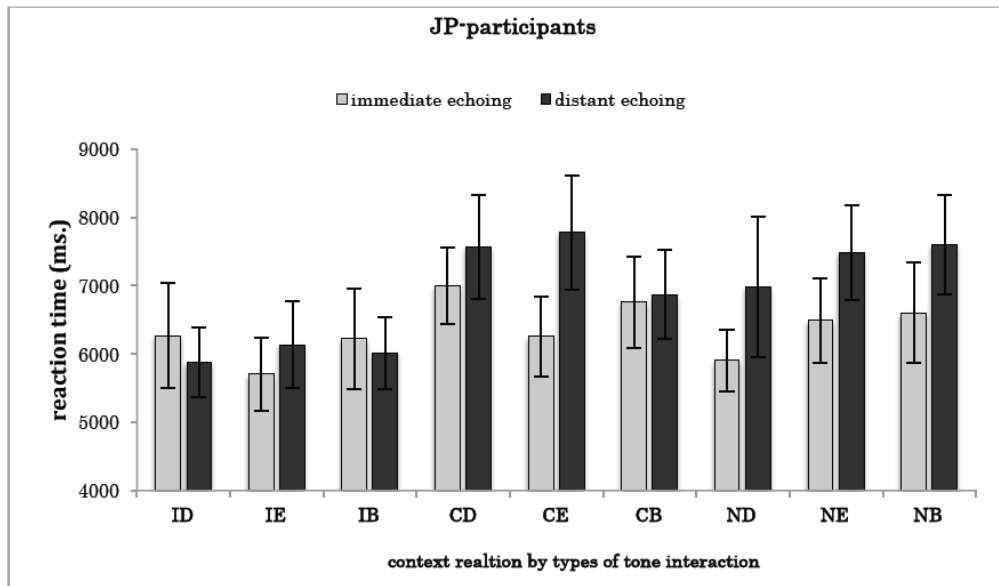


Figure App. G.1: Mean of reaction times in comparison between immediate echoing and distant echoing

Descriptive analysis showed that in most cases, it took not only JP-participants but also BNS-participants longer to respond when the source of echo was distant from a target utterance than it had appeared just before a target utterance. The effect of the location of the source of echo on reaction time was analysed using Wilcoxon tests. The results revealed that a difference in reaction time between immediate echoing and distant echoing in reaction time was not statistically significant under each condition for both JP-participant group and BNS-participant group (the details are shown in Table App.G.1 below).

Table App.G.1: Results of the Wilcoxon tests

JP- participants condition (<i>Mdn</i>)		<i>T</i>	<i>p</i>	<i>r</i>	BNS- participants condition (<i>Mdn</i>)		<i>T</i>	<i>p</i>	<i>r</i>
IDI (4656)	IDD (5129)	268.00	.70	.05	IDI (3772)	IDD (4129)	131.00	.59	-.08
IEI (5614)	IED (5023)	297.00	.34	.12	IEI (3553)	IED (4067)	171.00	.55	.09
IBI (5144)	IBD (5078)	241.00	.89	-.02	IBI (4061)	IBD (4713)	197.00	.18	.19
CDI (6463)	CDD (6239)	262.00	.78	.03	CDI (3556)	CDD (3618)	185.00	.32	.14
CEI (5588)	CED (6848)	318.00	.17	.17	CEI (4048)	CED (3917)	178.00	.42	.12
CBI (6759)	CBD (5254)	251.00	.95	.07	CBI (3778)	CBD (3231)	107.00	.22	.18
NDI (5259)	NDD (4984)	269.00	.68	.05	NDI (3662)	NDD (3603)	.169	.59	.08
NEI (4916)	NED (6698)	308.00	.24	.15	NEI (5009)	NED (3843)	104.00	.19	.19
NBI (5958)	NBD (6537)	306.00	.26	.14	NBI (4200)	NBD (3647)	142.00	.82	.03

This suggests that processing speed of both JP-participants and BNS-participants were not significantly affected by the location of the source of echo. Although a difference between two locations was not statistically significant, small-medium sized effect (1% – 9% of variance) was found in some comparisons. This trend was more evident in the reaction time of BNS-participants.

Next, the effects of the tone variable and the context variable on processing speed were analysed as within-group variables. A factorial repeated-measures ANOVA was performed. The data for immediate echoing and those for distant echoing were analysed separately. First, the results of conditions with the immediate echoing variable. Figure App.G.2 illustrates each participant-group's mean reaction time of each interaction with immediate echoing variable: the top plot displays the mean reaction time of JP-participants and the bottom plot displays that of BNS-participants.

The results showed no significant main effects of either types of context relation $F(2, 60) = 1.30, n.s.$, or tone $F(2, 60) = .288, n.s.$, on JP-participants' reaction times. Contrasts revealed that, while a difference across the types of context was not statistically significant, reaction time under inconsistent context was shorter than

consistent context, $F(1, 30) = 2.25$, n.s., $r = .26$, and neutral context, $F(1, 30) = .47$, n.s., $r = .12$. Reaction time under neutral context was shorter than consistent context, $F(1, 30) = 1.02$, n.s., $r = .18$. Contrasts across the types of tone revealed that reaction time under basic tone was longer than deadpan tone, $F(1, 30) = .07$, n.s., $r = .05$, and exaggerated tone, $F(1, 30) = .63$, n.s., $r = .14$. They also revealed that reaction time under deadpan tone was longer than exaggerated tone, $F(1, 30) = .23$, n.s., $r = .09$. None of these differences was significant.

With regards to BNS-participants' reaction times, there was no significant main effect of either the types of context relation, $F(2, 46) = .63$, n.s., or the types of tone either $F(2, 46) = 2.47$, n.s. Contrasts revealed that reaction time under consistent context was shorter than inconsistent context, $F(1, 23) = .48$, n.s., $r = .14$, and neutral context, $F(1, 23) = 1.83$, n.s., $r = .27$. Reaction time under inconsistent context was shorter than neutral context, $F(1, 23) = .13$, n.s., $r = .08$. A difference across the types of context was not statistically significant. On the other hand, reaction time under exaggerated tone was significantly longer than deadpan tone, $F(1, 23) = 4.68$, $p = .041$, $r = .41$. It was also longer than basic tone, $F(1, 23) = .69$, n.s., $r = .17$, but the difference was not significant. Contrasts also revealed that reaction time under basic tone was longer than deadpan tone, $F(1, 23) = 2.26$, n.s., $r = .30$.

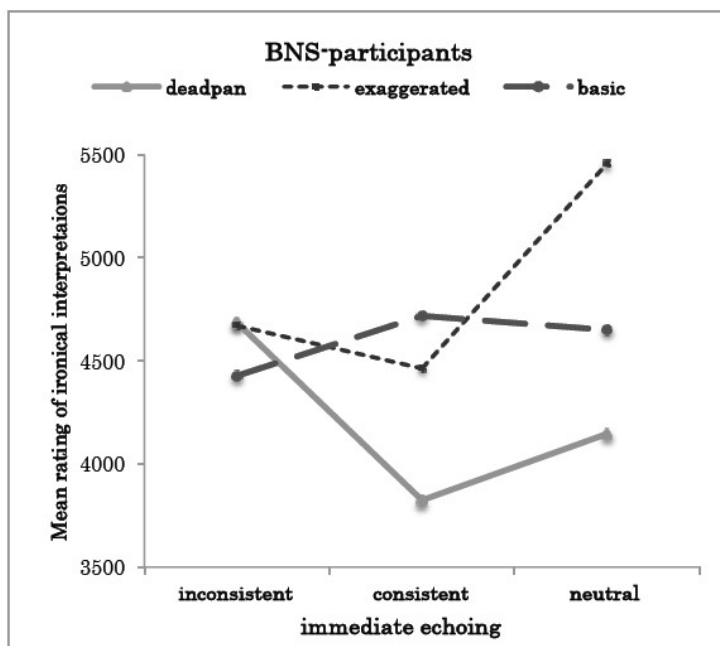
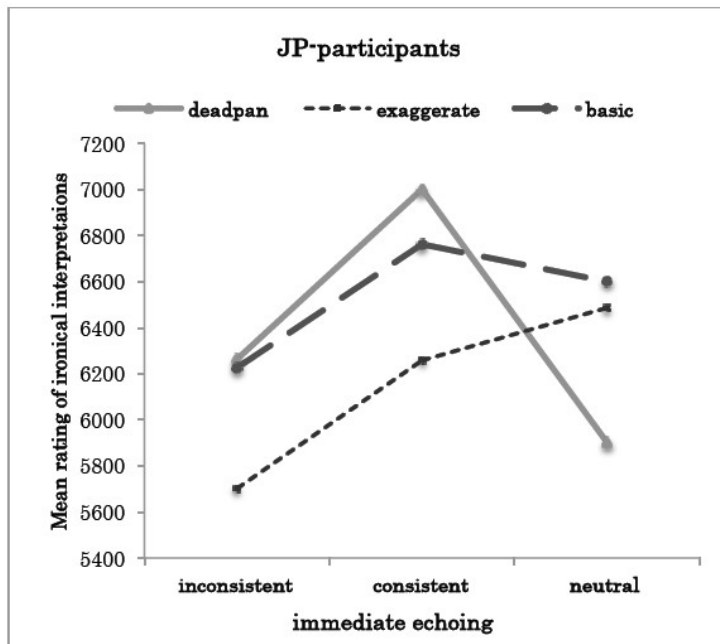


Figure App.G.2: Mean reaction time of interaction between tone, context relation and participant group (immediate echoing)

There was no significant interaction effect between the types of context relation and the types of tone either on JP-participants' reaction time, $F(4, 120) = .58$, n.s., or on those of BNS-participants, $F(4, 92) = 1.01$, n.s. Contrasts were performed comparing all context relation types with each other and all tone types with each other. No statistically significant interaction effect was found (the detailed results of each contrast are shown in Table App.G.2).

Table App.G.2: Contrasts of context by tone interaction (immediate echoing)

interactions		JP			BNS		
context	tone	<i>F</i> (1, 30)	<i>p</i>	<i>r</i>	<i>F</i> (1,23)	<i>p</i>	<i>r</i>
inconsistent vs. consistent	deadpan vs. exaggerated	.30	n.s.	.10	1.02	n.s.	.21
	deadpan vs. basic	.04	n.s.	.04	2.04	n.s.	.29
	exaggerated vs. basic	.00	n.s.	.00	.22	n.s.	.10
inconsistent vs. neutral	deadpan vs. exaggerated	1.47	n.s.	.22	2.52	n.s.	.31
	deadpan vs. basic	.42	n.s.	.12	1.12	n.s.	.22
	exaggerated vs. basic	.29	n.s.	.10	.50	n.s.	.15
consistent vs. neutral	deadpan vs. exaggerated	2.27	n.s.	.27	.68	n.s.	.17
	deadpan vs. basic	.80	n.s.	.16	.19	n.s.	.09
	exaggerated vs. basic	.20	n.s.	.08	1.37	n.s.	.24

Next, the results of conditions with distant echoing variable. The top plot of Figure App.G.3 displays means RTs of JP-participants and the bottom plot displays those of BNS- participants. Mauchly's test indicated that the assumption of sphericity had been violated for the interaction effect of context by tone on reaction time of JP-participants, $\chi^2(9) = 17.08, p = .048$. Therefore, following suggestions of Barcikowski and Robey (1984), Girden (1992), and Huynh and Feldt (1976) (cited in Field 2013:548), degrees of freedom were corrected by using Huynh-Feld estimates of sphericity ($\epsilon = .78$ for the interaction effect of context by tone). The results showed that there was a significant main effect of the types of context relation $F(2, 60) = 4.28, p = .018$ on JP-participants' reaction times. Contrasts revealed that reaction time under inconsistent context was significantly shorter than consistent context, $F(1, 30) = 6.76, p = .014, r = .43$, and neutral context, $F(1, 30) = 7.81, p = .009, r = .45$. Reaction time under neutral context was shorter than consistent context, $F(1, 30) = .01, n.s., r = .02$. A difference in reaction time between neutral context and consistent context was not statistically significant. In addition, there was no significant main effect of the types of tone on JP-

participants' reaction times, $F(2, 60) = .26$, n.s. Contrasts revealed that a difference across the types of tone was not statistically significant: reaction time under deadpan tone was shorter than basic tone, $F(1, 30) = .002$, n.s., $r = .01$ and exaggerated tone, $F(1, 30) = .39$, n.s., $r = .11$, and reaction time under basic tone was shorter longer than exaggerated tone, $F(1, 30) = .49$, n.s., $r = .13$.

With regard to reaction times of BNS-participants, Mauchly's test indicated that the assumption of sphericity had been violated for the main effect of tone on reaction time of BNS-participants, $\chi^2(2) = 13.19$, $p = .001$, and the interaction effect of context by tone, $\chi^2(9) = 17.44$, $p = .043$. Therefore, degrees of freedom were corrected by using Greenhouse-Geisser estimates of sphericity ($\epsilon = .69$ for the main effect of tone and $\epsilon = .75$ for the interaction effect of context by tone).

There was no significant main effect of either the types of context relation, $F(2, 46) = .56$, n.s., or the types of tone either $F(1.38, 31.71) = .11$, n.s. Contrasts revealed that reaction time under consistent context was shorter than inconsistent context, $F(1, 23) = 1.31$, n.s., $r = .23$, and neutral context, $F(1, 23) = .08$, n.s., $r = .06$. Reaction time under neutral context was shorter than inconsistent context, $F(1, 23) = .45$, n.s., $r = .27$. A difference across the types of tone was not statistically significant. Contrasts across the types of tone revealed that reaction time under deadpan tone was shorter than basic tone, $F(1, 23) = .15$, n.s., $r = .08$, and exaggerated tone, $F(1, 23) = .13$, n.s., $r = .07$. They also revealed that reaction time under basic tone was shorter than exaggerated tone, $F(1, 23) = .25$, n.s., $r = .10$. These differences were not statistically significant.

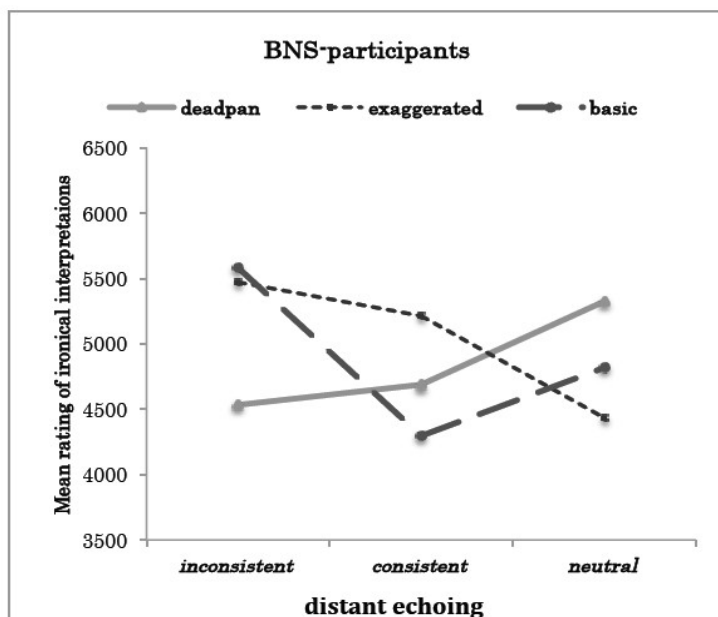
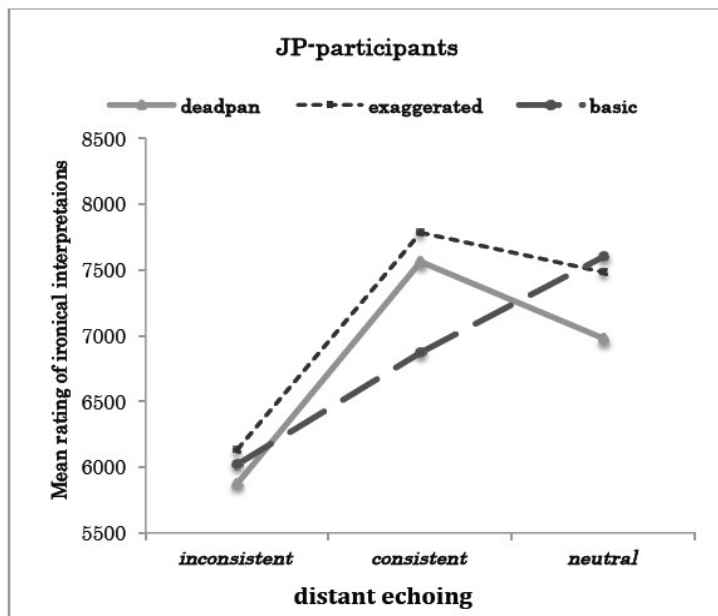


Figure App.G.3: Mean reaction time of interaction between tone, context relation and participant group (distant echoing)

In terms of the effects of context by tone interaction, there was no significant interaction effect either on JP-participants' reaction time, $F(3.53, 105.97) = .38$, n.s., or on those of BNS-participants, $F(3.02, 69.45) = 1.03$, n.s. Contrasts were performed comparing all context relation types with each other and all tone types with each other. Like the results of conditions with the immediate echoing variable, these contrasts revealed no significant interaction (the detailed results of each contrast are shown in Table App.G.3).

Table App.G.3: Contrasts of context by tone interaction (distant echoing)

interactions		JP			BNS		
context	tone	<i>F</i> (1, 30)	<i>p</i>	<i>r</i>	<i>F</i> (1,23)	<i>p</i>	<i>r</i>
inconsistent vs. consistent	deadpan vs. exaggerated	.00	n.s.	.00	.12	n.s.	.07
	deadpan vs. basic	.66	n.s.	.15	2.07	n.s.	.29
	exaggerated vs. basic	.62	n.s.	.14	.91	n.s.	.20
inconsistent vs. neutral	deadpan vs. exaggerated	.03	n.s.	.03	2.51	n.s.	.31
	deadpan vs. basic	.20	n.s.	.08	1.93	n.s.	.28
	exaggerated vs. basic	.04	n.s.	.04	.05	n.s.	.05
consistent vs. neutral	deadpan vs. exaggerated	.04	n.s.	.04	.97	n.s.	.20
	deadpan vs. basic	3.32	n.s.	.32	.01	n.s.	.02
	exaggerated vs. basic	.62	n.s.	.14	2.70	n.s.	.32

These results indicate that processing speed of both participant groups was not affected by interaction of tone with context. However, as shown in Table App.G.2 and Table App.G.3, some contrasts yielded small to medium effect sizes. Despite the results showing no statistical significance in any comparisons of condition between two locations for both participant-groups, effect size that each comparison yielded cannot be ignored. It is possible, however, that significant interaction effects may be found if the sample size were increased.

Considering that the underlying assumptions of ANOVA were violated, non-parametric tests were also performed in order to back up these findings. Friedman's ANOVA and Wilcoxon tests as a follow-up were used. The results of these tests confirmed the observations from parametric test (factorial repeated-measures ANOVA): JP-participants' reaction time was not significantly different depending on the interaction of context by tone, $\chi^2(8) = 14.03, p = .85$ under conditions with immediate echoing variable, and $\chi^2(8) = 9.61, p = .29$ under conditions with distant echoing

variable. BNS-participants' reaction time was not significantly different either depending on the interaction of context by tone, $x^2(8) = 13.33, p = .10$ under conditions with immediate echoing variable, and $x^2(8) = 5.13, p = .74$ under conditions with distant echoing variable.

Discussion: It was hypothesised that reaction time of JP-participants under conditions with immediate echoing would be faster than distant echoing, and that processing speed of JP-participants would be affected by the location of the source of echo more strongly than BNS-participants. The results partially confirmed this hypothesis. Although a difference in reaction time between conditions with immediate echoing and those with distant echoing was not statistically significant, the location of the source of echo affected not only JP-participants' processing speed but also BNS-participants' processing speed under most of the conditions. It was also hypothesised that both participant groups would respond faster under the influence of deadpan tone with inconsistent context relation whereas it would take longer for them to respond under the influence of deadpan tone with consistent context relation and the influence of basic tone with inconsistent context relation. Only the reaction times (of both participant groups) under conditions with distant echoing confirmed this hypothesis. Reaction time of BNS-participants under conditions with immediate echoing showed the opposite trend: reaction time was longer when inconsistent context relation interacts with deadpan tone than when it interacts with basic tone. Reaction time of BNS-participants was faster when consistent context relation interacts with deadpan tone than when it interacts with basic tone.

It was hypothesised that the types of tone would affect JP-participants' interpretation processes more strongly than the types of context. The results appeared to be the opposite: trends of processing speed of JP-participants indicated that JP-participants seemed to be affected by the types of context relation more strongly than

the types of tone. This was more evident when the source of echo was distant from the target utterance.

One of the limitations of the analyses of processing speed is that comparisons between different conditions in the same example could not be performed due to the small number of participants; hence increasing the sample size might provide more convincing results. This hindered the present study from finding systematic patterns depending on participant-group, the types of tone, the types of context relation, or the interaction of tone with context relation. Considering the complexities of the experimental design and the different degree of complexities across 18 examples, this experiment cannot completely exclude the possibility that these findings occurred by chance. However, the trend indicates that Japanese speakers might be able to integrate information from different sources (i.e., integrating the information from the speaker's tone with explicatures) and that they might also be capable to do so even when additional processing load (by a filler sentence) is imposed.

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