Linguistic Coordination in Japanese and English

Ryoko Shimizu
B.A. (Mod.) CSLL
Final Year Project, May 2006
Supervisor: Dr. Carl Vogel

4th May, 2006
Declaration

I hereby declare that this thesis is entirely my own work and that it has not been submitted as an exercise for a degree at any other university.

4th May, 2006

Ryoko Shimizu
I would like to initially thank my family over in Japan, who has always been very helpful and supportive for my study in Ireland.

Next, I would also like to thank my supervisor Dr. Carl Vogel, who continued patiently advising for this project and throughout the four years of my degree course in Trinity College of Dublin.

Lastly, I would like to thank to all those people who encouraged and helped me: Claire, Gerard, Kei, Laragh, Naoko, Noel, Padraig, Tara, Yuko, Yuuki, and most of whom participated in my experiments.
“A different language is a different vision of life.”
   Federico Fellini

“Language is by its very nature a communal thing; that is, it expresses never the exact thing but a compromise - that which is common to you, me, and everybody.”
   Thomas Earnest Hulme

“Language is the source of misunderstandings.”
   Antoine de Saint-Exupery

“Think like a wise man but communicate in the language of the people.”
   William Butler Yeats
## Contents

1 Introduction ............................................. 1

2 Background ............................................. 4
   2.1 Introduction ........................................ 4
   2.2 Linguistic Coordination .............................. 5
   2.3 Relevant Japanese Language Features ................ 7
   2.4 Conclusion ......................................... 9

3 Pre-Experiments ....................................... 11
   3.1 Introduction ........................................ 11
   3.2 Pre-experiment 1 .................................... 12
      3.2.1 Materials and Procedure ....................... 12
      3.2.2 Participants .................................. 16
      3.2.3 Results and Discussion ....................... 20
   3.3 Pre-experiment 2 .................................... 21
      3.3.1 Materials and Procedure ....................... 21
      3.3.2 Participants .................................. 22
      3.3.3 Results and Discussion ....................... 22
   3.4 Pre-experiment 3 .................................... 24
      3.4.1 Materials and Procedure ....................... 24
      3.4.2 Participants .................................. 24
      3.4.3 Results and Discussion ....................... 25
   3.5 Conclusion ......................................... 26

4 Main Experimental Design ............................ 28
   4.1 Introduction ........................................ 28
   4.2 Preparation ........................................ 29
      4.2.1 Test Experiment ................................. 29
      4.2.2 Experiment Materials ........................... 30
      4.2.3 Software Used .................................. 31
   4.3 The ‘monogamous pair’ situation .................... 34
      4.3.1 Participants .................................. 34
      4.3.2 The Task and Environment ..................... 34
## CONTENTS

4.4 The ‘community group’ situation ....................................................... 37
  4.4.1 Participants ................................................................. 37
  4.4.2 The Task and Environment .................................................. 38
4.5 Conclusion ..................................................................................... 40

5 Results and Discussion ........................................................................ 41
  5.1 Introduction ................................................................................... 41
  5.2 Word Types Analysis ................................................................. 43
    5.2.1 The Data ............................................................................ 43
    5.2.2 Monogamous pairs Situation ................................................. 45
    5.2.3 Community group Situation .................................................... 47
    5.2.4 Comparison between the Two Situations ..................................... 48
  5.3 Degree of Success .......................................................................... 50
    5.3.1 The Data ............................................................................ 50
    5.3.2 Questionnaire Result ............................................................ 50
    5.3.3 Monogamous pairs Situation ................................................. 51
    5.3.4 Community group Situation .................................................... 52
    5.3.5 Comparison between the Two Situations ..................................... 53
  5.4 Politeness Markings ........................................................................ 53
  5.5 Conclusion ..................................................................................... 55

6 Conclusion ........................................................................................... 57
  6.1 Achievements ................................................................................. 57
  6.2 Summary of Linguistic Coordination .............................................. 57
  6.3 Further Research ............................................................................ 58
  6.4 Concluding Remarks ...................................................................... 59

Bibliography .............................................................................................. 60

A Pre-experiment 1 Material ..................................................................... 62

B Pre-experiment 2 Material ..................................................................... 68

C Pre-experiment 3 Material ..................................................................... 70

D Experimental Material .......................................................................... 75

E Experiment Guideline ............................................................................ 77
  E.1 The Monogamous Pairs Situation .................................................. 77
    E.1.1 Participant 1 ........................................................................ 77
    E.1.2 Participant 2 ........................................................................ 77
    E.1.3 Participant 3 ........................................................................ 78
    E.1.4 Participant 4 ........................................................................ 78
    E.1.5 Participant 5 ........................................................................ 78
E.1.6 Participant 6 ....................................................... 79
E.1.7 Participant 7 ....................................................... 79
E.1.8 Participant 8 ....................................................... 79
E.2 The Community Group Situation .................................. 80
E.2.1 Participant 1 ....................................................... 80
E.2.2 Participant 2 ....................................................... 80
E.2.3 Participant 3 ....................................................... 80
E.2.4 Participant 4 ....................................................... 81
E.2.5 Participant 5 ....................................................... 81
E.2.6 Participant 6 ....................................................... 81
E.2.7 Participant 7 ....................................................... 82
E.2.8 Participant 8 ....................................................... 82

F The Monogamous Pairs Transcription 83
F.1 The monogamous pairs Round 1 .................................. 83
F.1.1 J1 with E5 ......................................................... 83
F.1.2 J2 with E6 ......................................................... 84
F.1.3 J3 with E7 ......................................................... 84
F.1.4 J4 with E8 ......................................................... 86
F.2 The monogamous pairs Round 2 .................................. 88
F.2.1 J1 with E5 ......................................................... 88
F.2.2 J2 with E6 ......................................................... 89
F.2.3 J3 with E7 ......................................................... 90
F.2.4 J4 with E8 ......................................................... 91
F.3 The monogamous pairs Round 3 .................................. 93
F.3.1 J1 with E5 ......................................................... 93
F.3.2 J2 with E6 ......................................................... 94
F.3.3 J3 with E7 ......................................................... 95
F.3.4 J4 with E8 ......................................................... 97
F.4 The monogamous pairs Round 4 .................................. 98
F.4.1 J1 with E5 ......................................................... 98
F.4.2 J2 with E6 ......................................................... 100
F.4.3 J3 with E7 ......................................................... 101
F.4.4 J4 with E8 ......................................................... 103

G The Community Group Transcription 104
G.1 The community group Round 1 .................................. 104
G.1.1 J1 with E5 ......................................................... 104
G.1.2 J2 with E6 ......................................................... 106
G.1.3 J3 with E7 ......................................................... 108
G.1.4 J4 with E8 ......................................................... 110
G.2 The community group Round 2 .................................. 112
G.2.1 J1 with E8 ......................................................... 112
List of Figures

3.1 Example picture of Pre-experiment 1 (Picture 1) .................. 17
3.2 Example picture of Pre-experiment 1 (Picture 2) .................. 18
3.3 Example picture of Pre-experiment 1 (Picture 3) .................. 19
4.1 How to cut out Tangram Pieces ................................. 30
4.2 Four Tangram Figures used in Experiment ......................... 32
4.3 Screen shot of Electric Tandem Resources ......................... 33
4.4 Monogamous Pairs States by Round ............................. 35
4.5 An Example of Constructed Tangram Figure ....................... 37
4.6 Community Group States by Round ............................. 39
5.1 Success Rate Over Time ........................................... 54
A.1 Pre-experiment 1 (Picture 5) Expected polite example .......... 63
A.2 Pre-experiment 1 (Picture 3) Expected impolite example ........ 64
A.3 Pre-experiment 1 (Picture 11) Unexpected polite example ...... 65
A.4 Pre-experiment 1 (Picture 6) Unexpected impolite example .... 66
A.5 Pre-experiment 1 (Picture 8) Filler example .................... 67
C.1 Pre-experiment 3 (Picture 4) Filler example ..................... 71
C.2 Pre-experiment 3 (Picture 7) Filler example ..................... 72
C.3 Pre-experiment 3 (Picture 7) Filler example ..................... 73
C.4 Pre-experiment 3 (Picture 9) Expecer impolite example ....... 74
List of Tables

3.1 Pre-Experiment 2 Result of Japanese in Dublin and Japanese in Japan . . 24
5.1 Monogamous Pairs Japanese and English Shared Type by Pairs . . . . . . 46
5.2 Monogamous Pairs Japanese and English Shared Type by Pairs of Pair . . 47
5.3 Community group Japanese and English Shared Type by Pairs . . . . . . . 49
5.4 Degree of success ranking of Monogamous Pairs . . . . . . . . . . . . . . 51
5.5 Degree of success ranking of Community Group . . . . . . . . . . . . . . 52
Abstract

This report presents the phenomenon of linguistic coordination in the multi-lingual environment of Japanese and English. The main purpose of the project is to investigate the effects on coordination of interaction between a native speaker and non-native speaker, and also the impact on coordination of varying or not varying partners, within and across languages. By two main experiments, the discourses between the conversational partners were investigated in the two distinct situations: the ‘monogamous pairs’ and the ‘community group’. The results and analyses of these two conditions are consistent with the linguistic coordination model, ‘Input-Output Coordination Principle’. Between the conversational partners, the monogamous pairs tend to share many word types over time; the community group demonstrated a higher level of sharing of linguistic types. In addition, a Japanese language feature, the politeness markings, were observed in the experiments. Influences between Japanese and English were seen in some incidents, and with those effects, coordination in the multi-lingual environment is discussed.
Chapter 1

Introduction

The content of this report describes the phenomenon of linguistic coordination and the language influence in a multi-lingual environment: Japanese and English.

Linguistic coordination is a coordination act that occurs when two people speak to each other and adapt to each other's speech. The speakers tend to understand what the partner is trying to say in part by re-using their partner's expressions. The previous research is mainly focused on the monolingual environment, which refers to the conversation between the same language native speakers. But as I, Japanese native speaker, am living in an English speaking country, I am interested in the phenomenon of coordination between a multi-lingual environment. In order to investigate this issue, I have carried out three pre-experiments and two main experiments with regards to previous research on linguistic coordination. My main purpose of this project is to investigate the mutual influence of Japanese and other languages.

In chapter 2, I review one core research on linguistic coordination, which is focused on the model that I employ in my research: 'Input-Output Coordination model' (Section 2.2). This research is in a monolingual environment; however, interesting tendencies are seen in the distinct situations of the 'isolated pairs' and the 'community group'. Another two further developed investigations in multi-lingual environments will be also criticized with respect to the experimental conditions of the 'isolated pairs' and the 'community group' conditions. These two research projects are consistent with the principle which is a core approach to the linguistic coordination. As a background of linguistic coordination in the Japanese and English environment, I explained the basic three Japanese features (Section 2.3), including size of lexicon, counting numbers and politeness marking system.

In chapter 3, three pre-experiments will be carried out. The purpose of experiments are to assess the Japanese native speakers' sensitivity to the politeness markings. This is because of my consideration for a loss or decrease of the sensitivity to the politeness markings, as it does not exist in English. The pre-experiments are all in a monolingual environment, as all the participants are Japanese native speakers who live in English speaking country for at least two years. The first pre-experiment (Section 3.2) investigates the general sensitivity of politeness markers with a material based on montages which constructed dialogue. Eleven pictures with speech bubbles are presented to the participants and ask for their
CHAPTER 1. INTRODUCTION

The results show a very strong reaction to the politeness markings, therefore I created another pre-experiment to investigate this sensitivity. The task of the second pre-experiment (Section 3.3), is to read a short story of two businessmen of different social status. The story has a few conversations towards the end, and I provide four optional responses of a lower status man to the higher status man. The two specific politeness markers are focused in this experiment, in order to see how reliable rates are in making judgments in accordance with ‘standard’ politeness expectations. As not all the participants show their sensitivity to the politeness markings, I also send the experiment over to Japan, in order to get more participations by Japanese native speakers. A slightly weaker sensitivity are seen by the Japanese living in English environment than those of who living in Japan. The third pre-experiment (3.4) assesses the expressions that the participants compose themselves according to the pictures. A few unexpected results are seen; however, the subject of the experiments are sensitive to the politeness markers, therefore I assume that will be a mutual impact of Japanese and English by those bilingual participants who speak English on a regular basis.

In Chapter 4, two main experiments are explained in detail. Prior to the main experiment a test experiment is carried out as a part of the preparation (Section 4.2). Here, I describe the materials and software which are used throughout the experiments. The design of the experiment consists of two main conditions: the ‘monogamous pairs’ (Section 4.3) and ‘community group’ (Section 4.4), which are introduced in the literatures on the issue of linguistic coordination in the multilingual environment. A game called ‘Tangram’ is used as the task, and the participants are told to communicate with each other in pairs using the chat form web browser. In both of the experiments, eight participants, either the native speaker of Japanese learning English or English learning Japanese, are paired and asked to play the role of either instructor or constructor. This role, together with speaking in one’s host language or guest language is intended to model a situation in which asymmetries could draw out interesting politeness phenomena. The instructor gives an instruction of the goal Tangram figure and the constructor makes the Tangram figure with the pieces. One experiment consists of four round of Tangram game, and each round is 15 minutes long. The participants are told to play the role which is indicated in the guideline sheet, and also speak within the indicated language (Japanese or English).

The results of the experiments are analyzed in Chapter 5. The three analyses are explained: Word Type Analysis (Section 5.2), Degree of Success Analysis (Section 5.3) and Politeness Markings Analysis (Section 5.4). In the first analysis, all conversations’ data is saved and manipulated with a program which calculates the number of shared word types in the conversations. This analysis is divided into two distinct conditions: the monogamous pairs and community group, in order to investigate whether these results are consistent with the literature. The next analysis looks at the results of constructed Tangram figures, which are photographed after each round of the games. This provides the sole measure of degree of mutual understanding achieved. This result is compared with the previous analysis to prove that this does not agree with the Input-Output Coordination Principle. The last analysis takes the actual conversational transcriptions to investigate the tendency of Japanese politeness markers and its impact on the languages. There is an
interesting incident of switching the level of polite form on the discourses between partners. In Chapter 6, I state my achievements in this project (Section 6.1) and revise the aim and results of the investigation. I, then, summarize the central features of linguistic coordination (Section 6.2), which are consistent with my experiments’ data. In Section 6.3, I suggest expectable further research with the improvement of my experiments, where I found several incidents. Finally, in Section 6.4, I conclude this project with a few closing remarks.
Chapter 2
Background

2.1 Introduction

In this chapter, I introduce linguistic coordination and approaches to its investigation in previous research. The studies on this issue are mainly in a mono-lingual environment which is more likely to occur in everyday situations, but with the development of technology and international relations, the multi-lingual communication environments are increasingly frequent; however, less research on linguistic coordination has been conducted in multi-lingual settings than in mono-lingual in the style of research that is focus of this project. For this project, I have chosen a multi-lingual environment in Japanese and English, because Japanese is my mother tongue, and I have been interested in the mutual impact of Japanese and other languages.

The difference between the mono-lingual and the multi-lingual settings is that an extra effort is needed in the multi-lingual environment, as one of the speaker has the language as his mother tongue but other does not. Thus, a certain amount of the additional effort will be required on behalf of both of the speakers: the native speaker will have to adapt to the linguistic constraints of the non-native speaker, and the non-native speaker will have to ensure that his utterances are comprehensible. Linguistic coordination is the behavior that speakers and listener accord with each other during the conversation, so that the communication effort is minimized and the communication is made as efficient as possible (Garrod, 1997). Psycholinguistic research in this area has adopted several different perspectives, one extreme assuming that coordination emerges through negotiation among interlocutors and at the other assuming that convergent behavior simply follows from imitation behavior. Evidence exists suggesting that negotiation actually constitutes a small proportion of dialogue, and that even in the face of complex task based issues requiring settling on conceptualization strategies in order to complete a cooperative task through dialog, people will make due with repeating expressions of their partner without negotiation (Healey, 1997; Garrod & Doherty, 1994). In her project, Jessel (2005) explored linguistic coordination in a multi-lingual environment to assess whether the additional cognitive effort required will drown out the normal coordination process between the speakers and
listener, or whether it will simply accompany it. She concluded that the effect of linguistic coordination was consistent with her multi-lingual environment (German and English) and despite of the difference between a ‘native speaker’ dialogue and a ‘native speaker with language learner’ dialogue, the principle of the coordination was not influenced.

My project begins with the question of linguistic coordination not within a language, but across languages. Thus, I will describe properties of Japanese, namely in grammatical-ized politeness marking (see Section 2.3), that discriminate Japanese from English (I also point out other major syntactic differences, such as its being a head-final language). My intention is to explore whether people having conversations in Japanese and in English, alternately, will demonstrate an influence of one language upon the other. As a necessary part of this research, I will also be exploring within-language influences of partners in conversation upon each other’s subsequent language use.

2.2 Linguistic Coordination

When two people talk to each other, how do they manage to coordinate their languages? Linguistic coordination is the idea which underlines this question. The first approach to the linguistic coordination identified two types of model: the Collaborative model, which suggest that collaboration between speakers leads to the emergence of a specific sub-language, and the Input-Output Coordination model (Healey, 1997), which suggests the existence of a basic coordination mechanism that speakers converge on a common conceptual and terminology system, based on the “Input-Output Coordination Principle”. I will be focused on this latter model, which proves a tendency to match the form of partners utterances to that of their partner’s utterances. This behavior reflects a basic interaction and coordination mechanism, originally introduced by Garrod and Anderson (1987) and referred to the ‘Input-Output Coordination Principle’. An experiment called ‘the maze game’ experiment was carried out in their study, in order to demonstrate the linguistic coordination mechanism. The participants were paired and communicated to help each other to solve the task of maze game. In this study, two different situations were set: the isolated pairs and the community group. The ‘isolated pairs’ refers to the conversational pairs which remained fixed throughout their experiment, and the community group refers to other participants who talked to different partners in each game. In the both situations, the convergence between the players of each pairs was observed, and was best described by the Input-Output Coordination process (Garrod, 1997). Here an interesting result was noted: the ‘isolated pairs’ converged quicker on a common scheme but their convergence was not very stable. The pairs in this situation eventually reached a maximal coordination level. In the community group, pairs were less coordinated in the early games than the isolated pairs, and took longer time to build a common language, and hence longer time for a common description scheme to appear. This is because the community group has to establish a community-wide convention among all the members. After the formation of the language they can act according to this convention and coordinate as a group. Compared to the isolated pairs, the community group’s convergence was much stronger and their
language was much more stable at the end of the game.

However, as this research was in mono-lingual environment, I also read worked by Appel and Vogel (2001) on linguistic coordination in a multi-lingual environment. The experiment in this investigation was very similar to the one I did in the Japanese and English environment, which will be explained in Chapter 4. The participants of Spanish native speakers learning English and English native speakers learning Spanish were paired and asked to the task called ‘Tangram’. The Tangram is a Chinese’s puzzle game which can create different figures using the pieces cut out from one big square. The task for each pair was to communicate each other and construct the figure. One of the pair played a role of instructor, who sent a message with the indication of the Tangram figure to the constructor in his foreign language and another played the constructor role, who followed the instruction and create the figure. Furthermore, as in the maze game experiment, certain participants were paired in isolated pairs and others were in the community group. An e-mail server was employed for tandem e-mail language learning to permit their interactions (Appel & Vogel, 2001). On the corpus of learner language data that the server collected, a series of statistical analyses were carried out. The results showed that, in the isolated pairs, the language used in the final games was very similar to the one they used in the early games; whereas in the community group, the language used at the end was very different from the language they used at the beginning. Moreover, in the community group, the language used by each participant was closer to the language of the entire community. In contrary, the isolated pairs used the language which had a more significant difference between each speaker and the group as a whole.

Another similar study was carried out by Jessel (2005), which had a multi-lingual environment of German and English. Her experiment was, again, the Tangram figure construction, and had also both situations: the isolated pairs (which refers to ‘the monogamous pairs’ in my study) and the community group (also called the ‘round-robin’ condition). The results showed the consistency with previous research on linguistic coordination for both situations, regardless of the difference of the multi-lingual and the monolingual environment. The isolated pairs showed the evidence of the Input-Output Coordination Principle, which rendered the stronger coordination at the early games. On the other hand, the community group had weaker consistency with the principle, but after establishing a community-wide convention, the coordination developed much stronger. As she concluded, there were a certain difference between a native speaker’s conversation and a native speakers with language learner conversation, which linked to language limitation, but this difference did not influence the core principles of linguistic coordination.

From this literature, I presumed that linguistic coordination could be also employed in the environment of Japanese and English. By reviewing the principles of the coordination, I attempt answer the question: does the coordination occur not any within a language, but also across languages?
2.3 Relevant Japanese Language Features

There are mainly three features of the Japanese language that I would like to introduce: lexicon size, counting numbers, politeness markers.

First of all, the Japanese language has a very large lexicon, approximately 720,000 words (Matsumura, 1995), whereas English has 500,000 words (http://dictionary.oed.com/). Nowadays, Japanese language is mixture of words from ancient Japanese, Chinese origin and western words, and it is very rich in multi-word lexical items. The expressions invented for different categorical fields, including nature (weather, seasons, plants and animals), life (human body, food, clothing, shelter, and family), sense, emotion and so forth (Kindaichi, 1991). Japanese language has also a lexicon for hierarchy system, which occurs especially in the relationship between different social statuses. This system is feudal and has been criticized over years in Japan, in spite of consideration of the mitigation, it remains still persistently. The crucial fact for Japanese language is that this classification also engenders a rich lexicon of Japanese language. For example, a familial structure is classified between elder brother (‘Ani’) and younger brother (‘Otouto’), and elder sister (‘Ane’) and younger sister (‘Imouto’), with lexical items, where the same information is expressed using phrase in English. These statuses made up the lexicons for each person, which also affect other lexical entries of the sentence with the respective subjects or objects.

(2.1) Address elder brother “Ani”

Onii-sama (with esquire)
Onii-san (with respect)
Onii-chan (with friendly form)
Aniue (with archaic respect)
Aniki (with archaic friendly form)

However, compared to other languages, Japanese has very regular structure of syntax. For example, the word order and verb conjugation are much simpler and more flexible than those one in European languages. The language prefers head final constructions, so SOV word order, but case-marking on nouns allows word order freedom. The last feature I have noticed in Japanese is the two dispositions which make the Japanese language distinctive. They are the enumeration system and politeness marking system. The enumeration system depends on nouns, for example, if you counting the number of human being, it would be “hitori (1 person), futari (2 people), sanmin (3 people)”, where counting days would be “ichinichi (1 day), futsuka (2 days), mikka (3 days)” and so on. There are no definite or indefinite determiners in Japanese. This tends to create problems for Japanese speakers who are learning English. The politeness markers are more complicated as it depends on the speaker, listener, and subject or object of the topic in the conversation. The irregularity also consists of the title of calling someone (e.g. Mr., Dr., and other prefixes), the second person pronoun (i.e. ‘you), and the imperative syntax (i.e. usage of interrogative structure
“would you” or simple form “do” of imperative). These two obscure features may be
difficult for the language learners, but also for the Japanese native speakers.

In my project, I focus on the second part of the complex syntactic structure feature of
Japanese language; the politeness/honorific system, which is based on a hierarchy, since
it is more radically different from English.\(^1\) Firstly, I summarize the politeness expression
system by dividing into it 5 categories. Here, the verb conjugation depends on the subject
or object of the topic, and the relation between the speaker and listener. In the first case,
the base form of the verb ‘-suru’ (to do) conjugates with the respect of the subject and
object in the conversation. For example, in a case that a student tells about his teacher who
books his flight ticket, the student’s regard for his teacher is seen in the verb ‘-sareru’. The
second type occurs when a student reserves a flight ticket of his teacher, the flight ticket
belongs to his teacher, therefore the verb conjugates to ‘-sashiageru’ in order to express his
humility with respect to the teacher. The next two types are more straightforward, as it
depends on the relation between the speaker and listener. For example, a teacher tells his
student that the teacher books his own flight ticket, the verb changes to ‘-shimasu’, which
is simply polite. This politeness marker is the most commonly used as it does not really
matter whether the status differs, as it could be used to talk to a totally stranger on the
street. The last type is when a student informs his teacher that he books the teacher’s
flight ticket, the verb changes to ‘-itashimasu’. This type of conversation occurs more often
between business, for instance, a customer (higher status) and travel agency (lower status).

(2.2) Base Form: ‘-suru’ (Verb: do)

\[
\begin{align*}
\text{Watashiwa} & \text{ koukuukenwo yoyaku suru.} \\
\text{I} & \text{ flight-ticket reserve do}
\end{align*}
\]

‘I book a flight ticket.’

(2.3) Honorific language: Subject > Speaker\(^2\)
(Speaker raises the level of the Subject; express respect)

\[
\begin{align*}
\text{Senseiwa} & \text{ koukuukenwo yoyaku sareru.} \\
\text{Teacher} & \text{ flight-ticket reserve do}
\end{align*}
\]

‘The teacher books a flight ticket.’

(2.4) Humble language: Object > Speaker
(Speaker lowers his level; express modesty/humility)

\[
\begin{align*}
\text{Watashiwa} & \text{ senseino koukuukenwo yoyaku shitesashiageru.} \\
\text{I} & \text{ teacher flight-ticket reserve do}
\end{align*}
\]

‘I book the teacher’s flight ticket.’

\(^1\)Even in English does not require determiners for plurals and mass nouns.
\(^2\)When the subject of the topic in the conversation has higher status than the speaker.
(2.5) Polite language: Speaker $\geq$ Listener

(Speaker raises the level of the Listener, but not high as the Honorific language)

\[ \text{Watashiwa koukuukenwo yoyaku shimasu.} \]

‘I book a flight ticket.’

(2.6) Chivalry language: Listener $>$ Speaker

(Speaker lowers his level, but not lower as the Humble language)

\[ \text{Watashiwa koukuukenwo yoyaku itashimasu.} \]

‘I book a flight ticket.’

5 types of Verb Ending in Politeness Markings

This complex verb conjugation system can be seen in most Japanese dialogues. In spite of its difficulty, most of Japanese native speakers learn these systems in their L1 acquisition in their youth. Thus, in Japanese culture, people are considered polite or well-bred when they know how to use different registers depending on their position in conversation.

In my project I have considered the politeness marker as a signal of coordination in conversation, as it takes important role in Japanese communication and develops quickly during conversation without explicit negotiation. From the point of the linguistic coordination in multi-lingual environment, the honorific language transfer into other languages with ‘substratum transfer’ has been addressed before (Thomason & Kaufman, 1988). Substratum transfer refers to the influence ones native language on the acquisition of a target language. In addition, Lado (1957) pointed out that individuals tend to transfer the forms and meanings and the distribution of the form and meaning of their native language and culture to the foreign language and culture.

However, this phenomena occurs in a multi-lingual condition, and with my research interest of a form of linguistic coordination, the feature was also a significant issue. As the linguistic coordination has been mainly investigated in mono-lingual environment, I had to consider how these Japanese language features could impact on the other language, in this case, English.

2.4 Conclusion

I explained that this project will examine the mutual influence of Japanese and English on each other when native speakers of each communicate with second language speakers of the other. Thus, among the aspects of linguistic coordination I am interested in are whether habits of Japanese that Japanese native speakers transfer to their English (such as dropping
determiners) are also picked up as habits within the conversational turns of native English speakers. It is not possible to examine all possible influences in each direction within the scope of this dissertation, but later chapters indicate within-language sharing of lexical types, and between language influences associated with politeness marking and with use of determiners. The effects are not very pronounced, but are visible. In the conclusions I elaborate other discernible extra-linguistic sharing – strategies for organizing information about the task, for example.

The chapter that follows describes some pre-tests that I conducted to establish the relevance of politeness markings to Japanese native speakers.
Chapter 3

Pre-Experiments

3.1 Introduction

Before the actual experiment (Chapter 4), three pre-experiments were carried out in order to obtain an idea of the actual experimental design and also to determine the participants’ sensitivity of politeness markings in Japanese. These experimental investigations helped me to organize and improve the later main experiments. The main purpose of the pre-experiments was to observe the type of results I could expect from the main experiment in Japanese and English environments and the reaction to politeness of Japanese who have lived in English spoken country for a certain years. These experiments very differ from the actual experimental design and did not involve any linguistic coordination issue. Instead of having a dialogue style experiment, I chose an individual test model pre-experiments, which participants complete the experiments one by one, so that I can see the sensitivity to politeness markings individually.

This first pre-experiment (Section 3.2) investigated the reaction to politeness markers. The participants were all Japanese native speakers who have lived in Ireland at least two years. As they have been living outside of Japan and using English for their communication, my concern was the loss or decrease of sensitivity to politeness markers. The experiment was in written form with eleven pictures. The images were selected and composed to form a montage with individuals whose attire and activity should depict via stereotype a particular social position and in combination relative social status. As the politeness markers are tied in with hierarchical system, the pictures of different social status were constructed on selected. The results showed a strong reaction to politeness markers. In addition, the Japanese native speakers tend to notice markings deemed “too polite”.

In the second pre-experiment (Section 3.3), more specific politeness markings were examined. I have written a short passage with a number of conversations at the end. Again, only native Japanese speakers participated this experiment. The participants were asked to read through the story and answer whether the expression of a person in the conversation at the end of story is appropriate or not. Compared to the previous experiment, this one was more precise with the specific two politeness markers: a polite marker and a “too-polite”
CHAPTER 3. PRE-EXPERIMENTS

marker. I expected an accurate result of the markers, as the most Japanese reacted very sensitively to the markers in the first pre-experiment; however, the result demonstrated less sensitivity to ‘correct’ levels of politeness than I expected. To see a general reaction of these polite markers, the pre-experimental materials were sent to Japan by email, and results received from Japan confirmed to expectations.

The last pre-experiment (Section 3.4) used the same material from the first pre-experiment, but it differed as it asked the participants to compose an appropriate expression for each picture. The dialogues and utterances that the participants composed were rich in variety, but most of the composed expressions were in non-polite form.

From the three pre-experiments I have noticed that the Japanese native speakers are definitely sensitive to the politeness markers, despite of the less sensitivity to the participants in Japan. From the results, I could anticipate the participation of those Japanese native speakers’ impact on linguistic coordination in the real experiment.

In the concluding section of this chapter, I described alternative methods for discussing sensitivity to politeness marking that I considered and in some cases partly embarked on, but ruled out for reasons of scale and practicality. I also suggested possibilities that from what I have learned through these tests might be more effective.

3.2 Pre-experiment 1

3.2.1 Materials and Procedure

Prior to the first pre-experiment, several methods of investigation to the sensitivity to the politeness marker were considered. I have recorded a conversation of Japanese native speakers to see how often and which situation they use the polite form. As it was mentioned in section 2.3 and 2.2 in the previous chapter, the polite form of conversations occurred when the social status of the speaker and listener are different. Another research was on the translation of films in both Japanese and English. This was carried out to investigate the subtitles for politeness markers. Most of the Japanese politeness markers were omitted from the original text to English subtitles. But for English films, an extra information according to the social status was frequently added. From the ground I designed three experiments.

The first pre-experiment was carried out to assess the politeness marking sensitivity of Japanese who have lived in English spoken country for at least two years. It was important to observe the participants’ instant reactions to the politeness markers, therefore I chose a comic style experiment which are familiar to Japanese. The experimental material was created with the pictures taken out from National Geographic magazine. Fifteen photographs were carefully selected, and some of them were combined with regard to different social status of the interlocutor as provided by stereotypes, so that the politeness marking would be clearly seen as appropriate or not. The pictures were pasted on an A4size notebook with the speech bubbles of short dialogues or soliloquy in Japanese (See below for translated texts and other materials in Appendix A, page 62). To investigate
correct and incorrect politeness markings, there were four ‘expected politeness’ speeches
(two polite and two impolite), three unexpected politeness speeches (two polite and one
impolite) and five fillers. The ‘Expected Politeness’ refers to the speech that the speaker
uses correct politeness marker regarding to the social status (e.g. Material (3.5): To the
favor of a business suit, a guy in work clothes answer with correct politeness markings),
and the ‘Expected Impoliteness’ refers to the speech with incorrect politeness marker,
which make the speaker impolite (e.g. Material (3.3): A guy in casual clothes asks to
a navy officer in impolite form, and the navy officer replies with politeness markings.)
The ‘Unexpected politeness’ refers to the speech that the speaker uses incorrect politeness
marker (e.g. Material (3.11): A little girl beside the blackboard says something to her
classmates with too politeness markings) and the ‘Unexpected Impolite’ refer so the speech
that the speaker uses incorrect impolite form, which indicates polite form (e.g. Material
(3.6): A boy standing at front of an elder women was told to move and he replies in polite
form, which is incorrect use in his situation). The ‘Filler’ stands for neither expected
nor unexpected (e.g. Material (3.8): Mickey mouse said that the person front of him is
his favorite cartoon character.). They were randomly ordered so that the fillers work as
neutralizers which demand neither polite nor impolite marking in particular.

The tasks involved participants looking at the picture with conversation and comment-
ing on each picture page by page. The participants were asked to simply respond whether
the speech was appropriate or inappropriate to the photographs. It lasted about 15 min-
utes, except the first participant who considered the speech too seriously and took him1
over 40 minutes. After responding to the eleven expressions and pictures, participants were
also asked to answer a short questionnaire, including where and how long have they lived
outside Japan (Appendix A, page 62). This pre-experiment gave me an impression of the
strong reaction to the politeness markers by Japanese native speakers. PM indicates the
politeness markers.

Pre-experiment 1 Material

(3.1) Expected polite
A girl (R: on the right) in wedding dress speaks to a man (L: on the left) digging in the
ground:

R:

Watashino doresuwo yogosanaiyou ni kiuwotsukete kudasai.
My dress not-to-dirt be-careful please.

‘Please, be careful not to dirty my dress.’

L:

---

1In the following description, I have referred to all the participants with the gender masculine “he”, in
fact, both men and women participated.
Hai, kiwotsukesasete itadaki masu.
Yes, be-careful will(PM) do.
‘Yes, I will take due care.’

(3.2) Filler
A girl (R) speaks to a group of card game members, and one of the member (L) replies:

R:
Kono kakeni kattara sakono kamera itadakimasu.
This bet if-i-win that camera take.
‘If I win this game I will take the camera.’

L:
Kamaimasen.
No-bother.
‘No problem.’

(3.3) Expected impolite
A man in casual clothes (L) asks for to a navy officer (R) in his uniform:

L:
Oi, ima nanjida?
Hey, now what-time?
‘Hey, what time is it?’

R:
Tadaima gozen 5ji 23pun 43byoude gozaimasu.
Now a.m. 5o’clock 23minute 43second is(PM).
‘It is 5:23:43, Sir.’

(3.4) Filler
A guy (R) talks to a small robot front of him:

R:
Kimiwa nante sutekina to-suta- nandeshou.
You how beautiful toaster are.
‘How beautiful toaster you are!’
(3.5) Expected polite
A guy in business suits (R) asks a favor to a guy working on top on the roof (construction site) in his working clothes (L):

R:

_Sumimasen, chotto sore hirotte itadakemasenka?
Excuse-me, (small-favor) that pick-up do(PM)

‘Excuse me, could you pick that up for me?’

L:

_A kore desune. Ohiroi shimasu.
Oh this is. Pick-up(PM) do.

‘Oh, this one. I will pick it up for you.’

(3.6) Unexpected impolite
A young girl (R) watching at TV talks to a boy (L) playing the guitar front of her:

R:

_Terebiga mienainode doite kudasai.
TV can’t-see move please.

‘I cannot see the TV well, so please move over.’

L:

_Hai, shouchi shimashita.
Yes, understand(PM) did.

‘Yes, ma’am.’

(3.7) Filler
A man (L) smiling at his home and his wife (R) having a cup of tea in her hands:

L:

_Youkoso wagayae.
Welcome my-home.

‘Welcome to my home’

R:

_Oishii okoucha ikaga desuka?
Tasty tea you-like do?

Would you like a nice cup of tea?’
CHAPTER 3. PRE-EXPERIMENTS

(3.8) Filler
Mickey mouse (R) talks to a guy in a white suit:

R:

*Kimiwa bokuga ichiban sukina anime kyarakuta-desu.*
You my best like cartoon character are.

‘You are my favorite cartoon character.’

(3.9) Expected impolite
A lady (R) cheers a group of elderly people:

R:

*Motto udewo nobashite kudasai.*
More arms stretch please(PM).

‘Could you please stretch your arms more?’

(3.10) Filler
A model (R) waiting guys to prepare her dress backstage:

R:

*Tenkeitekina otokotachine. Watashiga nugumade matterarenaino?*
Typical men. I undress not-wait?

‘Typical men, Can you wait until I get undressed?’

(3.11) Unexpected polite
A little girl (R) standing beside a blackboard doing a mathematical question front of her class:

R:

*5 kakeru 3wa 15de gozaimasu.*
5 multiply 3 15 is(PM).

‘5 multiply 3 is 15.’

3.2.2 Participants
This pre-experiment involved six Japanese native speakers, all aged between 17 and 36 years old, both male and female participants. The participants have been in an English speaking country at least two years and using English in regular basis. More precisely, there were four undergraduate students from Trinity College of Dublin and two office workers. The participants were seated in front of the notebook and tested individually.
R: “Please, be careful not to dirty my dress.” L: “Yes, I will be careful.”

Figure 3.1: Example picture of Pre-experiment 1 (Picture 1)
L: “If I win this game I will take the camera.” R: “No problem.”

Figure 3.2: Example picture of Pre-experiment 1 (Picture 2)
CHAPTER 3. PRE-EXPERIMENTS

L: “Hey, what time is it?” R: “It is 5:23:43, Sir.”

Figure 3.3: Example picture of Pre-experiment 1 (Picture 3)
in a quiet room. I was available for responding to questions as they emerged. For each picture participants were instructed to read the speech and respond to whether they find the speech appropriate or not instantly, and if not, indicate the reason for the problem. The materials were administered and all discussions happened through all in Japanese. In the experiment, I talked and gave the instructions to the participants in polite form; however, with the two office workers, an extra attention was required to be polite. No participant was given any mention of politeness markers although some did pointed to politeness within replies, as described below. Participation was offered upon individual request.

3.2.3 Results and Discussion

The experiment results were somewhat arbitrary and most of the participants had different answers. However, it was unsurprising that all the Japanese native speakers were incredibly sensitive to politeness markings, in spite of their long stay in an English speaking country. One remark on the participants’ reaction was that they found difficult to answer when the social status of the speaker and the situation was not clear. Some of the participants asked me for the description of the situation on the pictures and mentioned that the speech has very strong influence of the social status of each person on the photographs. The common comments on inappropriate expressions were volunteered information prompting on politeness as follows.

- Verb ending must be less polite e.g. “gozaimasu” to “masu”
- Noun form must be less polite
- Unnatural politeness marking
- Too formal speech

For example some indicate the speeches inappropriate but do not identify why and where exactly they are inappropriate. One interesting result I found in this experiment was that the Japanese native speakers were sensitive to “too polite” markings but not to impoliteness. The “too-polite” expression stands for the speech that gives an expression of wrong status in the hierarchy system. For example, some of the participants pointed out that picture 9 (A young trainer was talking to an old lady who was playing a hockey game) was impolite because the young trainer’s respect was not expressed in the speech, but picture 11 (A girl was pointing at a blackboard with her stick) was too polite because a small child used a politeness marker of a humility expression to her classmates. This is an obvious result that Japanese are tend to use more politeness speech to elder people to show their respect. Thus, when the age of the speaker was not clearly seen, Japanese native speakers confuse whether they use politeness or not.

Another most common comment was on the Figure 3.2.1 which was made up by the pictures of a man in slightly soiled clothing and a naval officer looking at his watch in his
uniform. The man in casual clothes asks the navy what time it is, in impolite expression, and the officer replies with very polite speech. The experiment result indicated that most of the participants found this conversation unnatural, because the navy man’s answer was too polite in response to a person with casual clothes.

As the speech was already written, as some participants took the man in casual clothes in higher social status (e.g. a archaeologist) than the naval officer. The larger point is significant- it is possible that people took the language as the final arbiter of status! From this view, it is clear that the politeness marker has a large influence on the speaker for Japanese native speakers. Relate this back to the perspective issue, some of comments suggested having an interrogative form instead of imperative speech. This is a reaction to the impoliteness, that Japanese native speakers prefer using question for asking someone to do something. But overall, the politeness markings were more pointed out compared to impoliteness. The participants react particularly to the complex verbal conjugations (See also Chapter 2).

From this result it was possible to consider that Japanese native speakers are sensitive with the politeness marking, especially “too-politeness”. Also, the matter of the social status and age of speaker influence the judgment of Japanese native speakers’ politeness markers.

Moreover, the results of two participants who are working in Dublin were critically different from those of the undergraduate students. Even though they have been in an English speaking county over many years, the sensitivity of politeness markings were much stronger than students. This showed that there are difference between who have been in the social hierarchical environment and those of who have not. This gave me another lead to choose the experimental participants for my real experiment.

3.3 Pre-experiment 2

3.3.1 Materials and Procedure

A second pre-experiment was carried out a week after the first experiment. The main purpose was to observe the sensitivity to politeness marking of Japanese native speakers, but this time the pre-experiment focused on “too-politeness” which was a surprising result from the first pre-experiment. Also the consideration of the strong reaction I expected the participants to have more accurate sensitivity to the polite markers. I created a short textual passage (See Appendix B, page 68 for the translated passage) expressing scenario of a company where specifies the social hierarchy between two business men. I gave a basic information of the situation at the beginning of the story, including the business products, the department they are working at, and the status of the two men. The two business men made a conversation on their business with full of politeness makers in their expressions and at the end of the conversations, the man in higher status made a suggestion on their business plan which was supposed to be answered by the lower business man. For answering the boss’s suggestion, there were four optional responses of the ‘lower’ business
man: one normal (Respond 1), one polite (Respond 2), one off topic (Respond 3) and one repeat (Respond 4). The main focus was on the first two responses which investigate the participants’ sensitivity to politeness marking, especially the polite and “too-politeness”, and last two are only for filler matters. As the hierarchical situation was clearly constructed and textually presented, I expected to obtain the result with the polite form (Respond 2).

The participants were asked to read the short story and answer how they find the four responds of lower status business man. The instruction was already written on the experiment sheet and I instructed them to complete the experiments in maximum ten minutes for more revealing results of the instant reaction to politeness marking. Again, the experiment was carried out in a quiet environment and in Japanese throughout. For this experiment, I was not available for responding to questions, as the participants preferred to do it by themselves.

### 3.3.2 Participants

There were two different groups of Japanese native speakers who participated in this experiment. The first group was the Japanese native speakers who live in Dublin, and other group was Japanese native speakers in Japan.

For the first group, five undergraduates of Trinity College of Dublin participated. (Participant P1 to P5) Their ages varied between 20 and 25 years. All participants were native speakers of Japanese and have been in an English speaking country at least two years. None of them have taken the first pre-experiment, and were not given any mention of politeness marking at any stage.

For the other set of group, I have sent the experiment sheet by email with a detailed instructions to the amount of Japanese native speakers. (Participant P6 to P10) The participants’ ages are between 23 and 38 years. Again, politeness marking was not mentioned at any stage.

### 3.3.3 Results and Discussion

On the textual passage sheet there were a couple of conversation between a ‘higher’ status business man (H) and a ‘lower’ status business man (L) after a description of the business they are in. At the end of conversation between them, there were four optional responds of the lower status business man, which were followings:

---

End of conversation between the two business men

H agreed to produce the new product which was proposed by L.

H:

\[ \text{Dewa shouhin keikakushowo seihin kaihatsubuni mawasou}. \]

Then product plan product development-section let’s-pass.

‘Then let us bring this project plan to our development section.’
CHAPTER 3. PRE-EXPERIMENTS

L (Respond 1): normal (polite but not extreme)

_Hai, dewa sassoku shouhin keikakushowo teishutu shimasu._
Yes, then at-once product plan submit do.

‘I will hand in the development plan.’

L (Respond 2): polite

_Hai, dewa sassoku shouhin keikakushowo teishutu itashimasu._
Yes, then at-once product plan submit do(PM).

‘I will hand in the development plan.’

L (Respond 3): off topic

_Dewa sassoku konban ippai ikagadesuka?_ Then at-once toniht one-glass how-about.

‘Why don’t we go for sake tonight?’

L (Respond 4): repeat what higher status business man said

_Dewa shouhin kaikakushowo sethin kaihatsubuni mawasou._
Then product plan product development-section let’s-pass.

‘Then let us bring this project plan to our development section.’

The participants simply answered whether the responses were appropriate (Yes) or inappropriate (No). They were also asked to reason the one they find inappropriate. Most of the first participants group (Japanese in Dublin, P1 to P5) answered that the normal one (Respond 1) was appropriate and the polite one (Respond 2) was inappropriate. (See left side Table 3.1) The reason of the inappropriateness was “too-polite”. For Respond 3 and Respond 4, all the participants answered that they were inappropriate, because of being off topic and repetition.

On the other hand, the results of participants based in Japan were desired (See right hand Table 3.1, Participant P6 to P10). Most of them replied that Respond 1 was inappropriate and Respond 2 was appropriate. The comments of inappropriateness were impoliteness. From these two different results we can assume that the second group chooses stronger politeness than group1. In other words, Japanese living in an English speaking country prefer less polite expression. This could be an effect of English language which does not have politeness markings, thus they have lost sensitivity of politeness. This remark is conceivable that it is a form of linguistic coordination. During their stay in an English speaking country, the participants have conformed to the language without politeness markings and have affected a feature of their native language. The linguistic coordination is therefore employed also in the multi-lingual environment.
3.4 Pre-experiment 3

3.4.1 Materials and Procedure

The last pre-experiment was carried out just before the first actual experiment. This pre-experiment basically observes how Japanese native speaker compose an expression with the politeness markings. I used the same material from the first pre-experiment. The notebook contains eleven pictures with the expressions in each speech bubble, but for this composing experiment I cleared out the the speech bubbles (see Appendix C, page 70). The difference between the first two experiments is that this experiment requires productive answers, where the first two were just perceiving some expression and assess the reaction. The participants were asked to compose a conversation which is appropriate to the picture. This pre-experiment took longer than the first two because of the composing task. Most of the participants took over 30 minutes to complete the eleven pictures’ speech bubbles. Some of them found the task very hard because of the unclear situation of the pictures. Although I selected the pictures with detail of the social starts and age, the participants demanded more well-defined pictures.

3.4.2 Participants

It involved ten Japanese native speakers (five Japanese in Dublin and five Japanese in Japan), all age between 20 and 58 years old, both male and female, and none of them have done the previous pre-experiments. The participants of the first group have been in an English speaking country for at least two years and using English on a daily basis. The instruction indicated to participate the experiment in quiet place where they could be alone, and within maximum of thirty minutes. For the second group, all the materials were scanned and sent by email with an instruction.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>P2</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>P3</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>P4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>P5</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 3.1: Pre-Experiment 2 Result of Japanese in Dublin and Japanese in Japan
3.4.3 Results and Discussion

This experiment took much longer time than the previous experiments and from consideration of the difficult task, the results were very different from what I expected. Probably because of the speech bubbles, most of the participants composed very friendly expressions which did not involve any politeness markers. In addition, this gave a limitation on the length of speech. Only a few of the answers were in polite form and most of them were in colloquial expressions. This was presumably because of the comic style format of the montages that influenced the participants to feel polite form expressions were inappropriate. Similar to the first pre-experiment, some of the participants found the age and social status unclear, therefore the task was too difficult.

The results were not as I expected and this was possibly because of the interpretive demands on the participants constructed by the montages. Higher productive in providing these might have an overall improved impact on clarifying results.

*Example answers for Figure 3.2.1*

A girl (R: on the right) in wedding dress speaks to a man (L: on the left) digging in the ground: H agreed to produce the new product which was proposed by H.

(3.12) Answer 1

L:

*Kokode hontouni nanika mitsukaruno kana?*  
Here really something will-find (TagQuestion)?

‘Do you think we will find something here?’

R:

*Mochiron! Watashino kekkon yubiwawo mitsuketene.*  
Of-course! My wedding ring find(FriendlyExpression).

‘Of course! You should find my wedding ring.’

(3.13) Answer 2:

R:

*Dou kono doresu niau?*  
How this dress suits-me?

‘Does this dress suits me?’

L:

*Totemo oniai desu-yo.*  
Very-much suits-you do(PM+FriendlyExpression)

‘You look very lovely.’
(3.14) Answer 3:

R:

*Kyouwa jinseide ichiban sutekinahi!*

Today life best beautiful-day!

‘Today is my best day of my life!’

L:

*Hai, hai, soudesuka.*

Yeah yeah, so-it-is.

‘Yeah, yeah, whatever.’

(3.15) Answer 4:

R:

*Sukoshi kinchou shitemasu.*

A-little nervous I-am.

‘I am little nervous’

L:

*Daijoubu, okirei desu-yo.*

No-worry, pretty you-are(PM+FriendlyExpression).

‘Don’t worry, you look nice.’

### 3.5 Conclusion

Three pre-experiments were carried out to investigate the sensitivity of politeness marker of Japanese native speakers who have been living in an English speaking country at least two years. The main reason of these pre-experiments was to certain the sensitivity of the participants who were going to take the actual experiment. My consideration was the decrease or loss of the sensitivity to polite form, as they do not usually compose an expression with politeness markings in English. The first pre-experiment (Section 3.2) assessed the general sensitivity of politeness markers in Japanese expressions. Eleven selected photographs with speech bubbles were pasted in a notebook and the participants were asked to respond to whether the expressions written in the speech bubbles were appropriate or not. I created four expected politeness speeches, three unexpected politeness speeches, and five fillers, in order to see the correctness of the politeness markers. The results proved the strong sensitivity, as they react very intensively. The second pre-experiment (Section 3.3) investigated more precise politeness markers, which were polite and “too-polite”. I wrote a short story with some discourses between two business men, and at the end of passage,
there were 4 optional responds of the lower status business man. The first two responses were a normal expression and a polite form. In the clear hierarchical situation, I expected the polite form (Respond 2) as the answer. However, the results described the Respond 2 “too-polite”, and Respond 1 as the appropriate answer. For this experiment, I sent over to Japan by email and asked for some participation. From this group of participants, I received the expected responds. In spite of the sensitivity of the politeness markers by first group, the comparison of these two results describes a decrease of Japanese native speakers’ sensitivity of politeness markers.

The third pre-experiment (Section 3.4) used the same material from the first pre-experiment, but the speech bubbles were cleared out. The task was to fill these eleven pictures speech bubbles. Most of the participants found this task very difficult, because of unclear status and situation of the pictures. This again shows the reaction to the politeness markers. Also the same number of Japanese in Japan participated this pre-experiment by email. The results were unexpected in that most of the composed expressions were colloquial and politeness markers were not found. Overall, the polite form was not composed, but the reaction to the pre-experiment interested me that some participants found the task difficult because of lack of information. Moreover, the loss of politeness marking were considered as a form of linguistic coordination, as the most of the participants have lived in an English speaking country for at least two years. As it was mentioned in the introduction (Section 3.1), I have researched the subtitles of Japanese and English films. This was to assess the translation of the politeness markers into English and also the English films into Japanese. Most of Japanese films omitted the politeness makers when they translated into English, whereas the English films were translated with an extra information on the social status in Japanese subtitles. From the consideration of exclusion of politeness markings in the pictures of films is also a phenomena on multi-lingual environment linguistic coordination.

As it was seen in the first pre-experiments the participants had a strong reaction to the politeness markers. This reaction to ‘correct’ or ‘incorrect’ politeness markings have done unconsciously by Japanese native speakers which was presumably gained through their first language acquisition. There was an evidence of loss of politeness markers probably because of their stay in an English speaking country, but even though, the Japanese native speaker showed the high sensitivity to the politeness markings. These pre-experiments gave me a good source of considering a strong politeness influence of Japanese in linguistics coordination with English. In the next chapter I would like to see how the Japanese native speakers use their politeness in their conversation with non-native speakers.
Chapter 4
Main Experimental Design

4.1 Introduction

The main purpose of the experiment is to investigate linguistic coordination, especially the “Input-Output Coordination Principle” in a Japanese and English environment. The main idea of this principle is that coordination will change through speakers and hearers repeating input as output, without explicit negotiation. From the previous researches on the multi-lingual environments (Appel & Vogel, 2001; Jesse1, 2005), I was guided in the design of my final experiment in the two different conditions: the monogamous pairs and the community group situation.

An important remark on this experiment was the influence of Japanese politeness markings in English. From my pre-experiment results (Chapter 3), an impact of politeness markings on Japanese language was seen in most of the Japanese native speakers who have lived in Ireland. However, the result of third pre-experiment showed a tendency towards composition of colloquial expressions when the social status or ages are not apparent. From this point of view, the actual experiment required a situation with different status or ages, so that politeness markings could have been seen. To implement this, I considered role playing games involving clear hierarchical roles (e.g. student and teacher). I worried, though, that the participants would be too self conscious. The Chinese game-puzzle “Tangram” task with speakers alternating in roles of instruction and construction in their native language and an acquired language appeared to me to provide a situation in which participants alternate in their privileged occurs to key information and expertise (although I decided not to inform participants if their partners were non-native). I reasoned that establishing a privileged information sources, the instructor, would be effective in eliciting politeness markings in Japanese conversations, with potential transfer into English ones. Therefore, the Tangram experiment which takes instructor or constructor was ultimate that the participants take a role playing style of investigation.

A test experiment was set out before the actual two experiments, so as to help my planning of the later actual experiments (Section 4.2). The test experiment was very similar to the actual experiment and involved the same “Tangram” task. It the experimental
procedures including the preparation of the materials. For each participant, a set of materials was required: a guideline sheet for the task, the user-names and passwords for each round,\(^1\) a sheet with the target Tangram figures for instruction, a set of Tangram pieces for construction, and a declaration sheet to sign.

Following previous research, I set up two experimental conditions: the ‘monogamous pairs’ condition (Section 4.3) which involved eight participants (five Japanese native speakers and three English native speakers), 3 pairs in the multi-lingual condition that the conversational partner has the opposite native language to his native language, except one pair in the mono-lingual condition (both Japanese native speakers), as one of English native speaker was absent on the experiment day, one more Japanese native speaker participated the experiment. The pairs were fixed throughout the four rounds of games, and in the pair one was an instructor who gives the instruction of the Tangram figure and other was a constructor who builds the figure by using the provided pieces. They were talking to each other in the indicated language (either Japanese or English) by using a chat form on computer. The second condition of the experiment was in the ‘community group’ condition (Section 4.4). Again, eight participants took part in the four rounds of games (four Japanese native speakers and four English native speakers) but in this situation the participants changed the conversational partner after each round. This was no overlap in participation between the two conditions. Except the switching the partner throughout the experiment, the experimental design was the same for this condition as with the monogamous pairs.

4.2 Preparation

4.2.1 Test Experiment

In order to obtain an idea of preparation and duration of the real experiment, I have asked 6 first year students from Computer Science, Linguistics and Language Department in Trinity College of Dublin to participate a test experiment. This test experiment assessed a community group condition (See Figure 4.4) of 2 rounds in English mono-lingual environment. This test gave me three very good overviews of the real experiment. Firstly, I had to create 12 accounts of user-name and password (for 6 participants of 2 rounds), in order to make participants use of the software which provides a chat forum. This software was used throughout my two real experiments (See Section 4.2.3). Secondly, each participant required a guide line sheet explains the Tangram task, a Tangram figure sheet with figures that only he is going to instruct, and a sheet indicates whether he is instructor or constructor, his user-name and password for each round. Obviously, participants did not get a sheet with figures for the rounds in which they acted as constructors. The results of this made clear that allocation ten minutes per round was too short to communicate effectively to construct one figure, hence for real experiment another 5 minutes were added.\(^2\) With

---

\(^1\)This helped maintain the setting that everyone could be dealing with a new partner each round.

\(^2\)By “effectively” I do not mean to achieve success in the success in the constructions, (although, see is for analyses of success by conditions) rather this refers to establishing a volley of communication between
these assists further experiments carried out efficiently.

4.2.2 Experiment Materials

From the linguistic coordination experiments used by different researcher in the past, I have chosen the Tangram task for my real experiment. Tangrams are Chinese puzzles consisting of a square divided into seven pieces (see Figure 4.1) that may be arranged to match particular design (for example see the Figure 4.2). In addition, to see the Japanese politeness marking through the experiment, it was ideal that this investigation takes a role play style by taking turn of either instructor or constructor; the instructor gives constructor an instruction of creating the Tangram figure and the constructor listen to instructor’s instruction to create the figure using the Tangram pieces. Tangram sets consist of seven pieces, all cut out of the one square: 2 big triangles, 1 medium triangle, 2 small triangles, 1 square and 1 parallelogram, as can been seen in Figure 4.1. By assembling all the pieces in particular ways, various figures can be formed. In my experiment I used 6 different colors of Tangrams and therefore each participant had 42 pieces to create a Tangram figure. Four figures were selected (See Figure 4.2) from (Jessel, 2005) through her assessment of difficulty of Tangram figures.

Two different experimental conditions were concerned: the monogamous pairs and partners that is not solely grounded in frustration.
the community group situation. This proposal was adopted from previous research that demonstrate linguistic coordination in those two conditions resulted differently. Garrod and Doherty (1994) noted that the condition in the monogamous pairs (in their paper, these are refer to an ‘isolated pairs’) converged quicker on a common scheme but their converge was not stable. This condition reached a maximal coordination level after a while. On the other hand, the community group coordinated less in the early games as the monogamous pairs were. It took longer for a common language, as the community has to first establish a community-wide convention between all its members. Once the community-wide language is done they can act according to this convention, and coordinate as a group. Furthermore, the convergence in the community group situation was much stronger and their language was more stable than the monogamous pairs situation.

Another interesting experimental result were seen in the paper of Appel and Vogel (2001). The experimental condition was very similar to the one which I used in this experiment. The Tanagram task was carried out in a multi-lingual environment: Spanish and English. The results showed that in the monogamous pairs, the language used in the late game, was similar to the one they used in the early game; whereas in the community group, the language used in the at the end was very different from the language they used at the beginning. This was further shown by results indicating that the speaker’s language is affected by every new partner encountered. On a whole, in the monogamous pairs, there was a more significant difference between the language used by each particular speaker and the language used by the entire group as a whole; whereas in the community group, the language used by each individual speaker was closer to the language of the entire community.

These points were also considered in this experimental environment: Japanese and English, as the Input-Output Coordination Principle was clearly employed in the previous research.

4.2.3 Software Used

The software I used in the real experiments is called ‘Electric Tandem Resources’, which has being developed by researchers in Computer Science Department, in Trinity College of Dublin. This web-site has been used in previous linguistics researches (Appel & Vogel, 2001). The interface of chat form permits participants to converse using a computer, and at the end of the session I would have a written transcript of the whole conversation. It allows multiple people to write a text at the same time, as long as they are logged in the specified user-name and password. The participants send the text by simply clicking a ‘send’ button and receive by clicking ‘verify’ button. This was a cause of a problem, as most of the participants expected to receive the messages automatically; however, they all got used to it after the first round of the game. They all could send and receive from only the partner who they are paired with. A screen shot can be seen in Figure (4.2.3).

All the written texts were available for the participants who have written or received
Figure 4.2: Four Tangram Figures used in Experiment
Figure 4.3: Screen shot of Electric Tandem Resources
the text by clicking the ‘Transcription’ button. A communicating pair could see any their
own pairs transcript for the conversation at hand. Thus, pairs in each round acted in
isolation of the rest of the group. All the transcriptions of the sessions were saved with
the information of the date, time, text itself and who sent it to whom. The texts in the
transcription were colored red for participant himself and blue for the partner. All the
participants were able to go back and see what they have sent and received, which made
them easier to check what has been said in the conversation.

Furthermore, for the conversations in Japanese, the participants used Alphabet typing,
Romaji. Romaji refers to the Romanizations of Japanese words, which are written in
ideographic character borrowed from Chinese and syllabic script. All Japanese who have
attended elementary school in Japan have been taught to read and write Romaji. It is
also the most common way to input Japanese words into word processors and computer.
Therefore, other than a small segment of the older generation, most Japanese are able to
read and write using this system. It is also useful for those of who learn Japanese language
as they can type the phonetic script of Japanese words and do not have to remember all
the written Japanese characters. In my experiment, I do not believe use of Romaji affects
the coordination issue.

4.3 The ‘monogamous pair’ situation

4.3.1 Participants

Eight participants were involved in this part of experiment: five Japanese native speakers
and three English native speakers. Two of the Japanese native speakers were students from
Trinity College, Dublin, age between 18 and 21 years old and using English on a regular
basis. As the issue of Japanese native speakers’ stronger sensitivity to politeness marker
was pointed out in the pre-experiment result, I have chosen three Japanese participants
who have been working in Dublin for at least four years. The three English native speakers
were working in Dublin after coming back from JET program, which they have learned
Japanese through teaching English in Japan for at least two years. Therefore, they all had
a good level of both written and spoken non-native language. In addition, they were all
familiar with computer facilities as they have access at either at college or work. In this
condition, for each monogamous pair, the Japanese native speakers will be referred to as
Speaker J, and the English native speaker as Speaker E with an identifying integer.

4.3.2 The Task and Environment

There were 3 pairs of one Japanese native speaker with one English native speaker and
1 pair of Japanese with Japanese. The monogamous situation was not specified to the

---

4The Japan Exchange and Teaching programme is a project to promote language education and regional
internationalization by inviting foreign individuals to work in local government organizations throughout
Japan (http://www.jetprogramme.org/).
Figure 4.4: Monogamous Pairs States by Round
participants, therefore none of them knew whether or not they were talking to the same
person throughout the experiment.

Before starting the experiment, I provided a short introduction to the software and
basic task of Tangram construction to participants. They were told to do a task called
Tangram figure construction, take a role of either instructor or constructor with talking
to somebody from the experimental group. An instructor had to give the instructions
on the certain Tangram figure, which was indicated on the Tangram figure sheet, and a
constructor had to read and carry out the instruction he was giving, using the set of shapes
to reconstruct the figure which was on the instruction sheet. By using the Electric Tandem
Resources, they needed to enter their user-names and passwords each round, and once they
were logged in they started the session. The experiment took place in two adjacent rooms
in Computer Science labs in Trinity College of Dublin. One experiment had 4 rounds and
each round was 15 minutes long.

For the instruction role, I emphasized not to write a long instruction at a time, even
though the Electric Tandem Resources allowed writing a text, so that more interaction
would take place each other and my purposes of this experiment, to see the linguistic
coordination and politeness markings could be investigated. Moreover, the constructor
was informed to interact as much as necessary with the instructor so as to achieve the task.

Each participant sat in front of a computer with the Electric Tandem Resources inter-
face window opened. They could not see what any other participant was typing or
constructing. There was a set of 4 pieces of sheet with each computer. First page was an
instruction guideline sheet with a section at the bottom where they had to declare their
agreement to their conversations being recorded and analyzed (See Appendix ??, page ??).
Second sheet indicated their roles of instructor or constructor, language they were going
to use (Japanese or English), and user-name and password for each round (Appendix ??,
page ??). The two other pieces of sheets were a set of instruction colored Tangram fig-
ures, which his partner did not have. They were also equipped with forty two construction
Tangram pieces.

After each round, the roles switched and after two round languages changed (seen
below). The former instructor became constructor and vise versa, and former Japanese
conversation became in English and vise versa, in the second round. Therefore each par-
ticipant had a chance to instruct and construct in Japanese and English. Also the figure
changed but only instructor had the colored Tangram figures, therefore the constructor did
not know the shape of the figure that he is going to make.

The figure 4.4 shows the experimental procedure of the monogamous pair situation.
The arrow points to the pair from the ‘instructor’ to the ‘constructor’, and the continuous
line describes the conversation in English and the dash line in Japanese. Notice that Round
2 is the second round of Japanese for all four of J1, J2, E5, E6 and of English for J3, J4, E7
and E8. The comparable equivalence between ‘absolute’ round and ‘round in a language’
does not happen in the community group condition.

At the end of each round I took a photograph of the constructions, so after the ex-
periment these resources help me to analyze the correctness and completeness of the con-
struction (See 4.5). After the whole experiment, I asked the participants to complete the
declaration and also a questionnaire with four questions, which asked for the most difficult figure, whether they improved at instructing, improved at constructing, and how many people thought they talked to. This will be analyzed and discussed in section 5.3.

4.4 The ‘community group’ situation

4.4.1 Participants

Eight other participants were involved in this part of experiment: four Japanese native speakers and four English native speakers, none of them had participated in the previous experimental condition nor any of the pre-experiments. Two Japanese native speakers were students in Trinity College of Dublin and two were workers in Dublin, and all aged between 20 and 31 years old. The four English native speakers were all workers in Dublin, had been in Japan at least one year with JET program. Therefore, they all had a good level of both written and spoken non-native languages. In addition, they were all familiar with computer facilities as they have access at either at college or work. Compared with the monogamous pair situation, this situation is more complicated as the participants change
the partner they communicate with. Again, the Japanese native speakers will be referred to as Speaker J, and the English native speaker as Speaker E with integers enumerating them within the language.

4.4.2 The Task and Environment

Basically, the task and environment were nearly identical to the previous experiment. The most important difference was that in this situation, participants were changing their partner each round throughout the experiment. The pairing lasted for one round which was only fifteen minutes. Each pair had one Japanese native speaker and one English native speaker, one playing the role of instructor and the other being of constructor.\(^5\) Again, they were not told whether they changed the partner he is talking to or not, and they had to log in with different user-name and password for each round, just as the monogamous pairs did.

Similar to the previous part of the experiment, each participant was handed a sheet with experimental instruction guideline with a section with their agreement declaration (Appendix ??, page ??). In addition, they had a sheet of their roles (instructor or constructor), language they were going to use (Japanese or English), and user-name and password for each round (see Appendix E, page 77 for the monogamous pairs and E.1.8, page 79 for the community group).\(^6\) Extra two other pieces of sheets were the instruction colored Tangram figures, which his partner does not have. They were also equipped with forty two construction Tangram pieces. As all the rounds are shown in Figure 4.6, after each round, the roles and languages were switched. (Same as monogamous pairs, the continuous line indicates the English conversation and dash line the Japanese conversation, and the arrow is from the ‘instructor’ to the ‘constructor’.) Most of the former instructor became constructor and vise versa, and former Japanese conversation became in English and vise versa, however the pair matching matter with the different partner caused here a little confusion that some participants used same language or had same role in a row. The Tangram figure changed by round and, again, only instructor had the colored Tangram figures, therefore constructor did not know the shape of the figure that he is going to make.

As I took photograph in the monogamous pair situation, I did the same for each construction after each round for the equivalent reason as before. After the whole experiment, I asked the participants to fill the declaration. For a short questionnaire, which asked for the most difficult figure, whether they improved at instructing, and improved at constructing. All the results would be seen in next chapter (Chapter 5).

---

\(^5\)There was one participant who had Italian as his L1; however, as Italian language closer to English than Japanese, I considered him as an English native speaker.

\(^6\)It was necessary, by the way to participants during each round, particularly at the start, to make sure they initiated with the correct language. This was necessary for both conditions (about one person every rounds was seen to be writing their first greeting message in the wrong language, but stopped before sending).
Round 1

J1 → E5
J2 → E6
J3 → E7
J4 → E8

Round 2

J1 ◀ E5
J2 ◀ E6
J3 ◀ E7
J4 ◀ E8

Round 3

J1 ◀ E5
J2 ◀ E6
J3 ◀ E7
J4 ◀ E8

Round 4

J1 ◀ E5
J2 ◀ E6
J3 ◀ E7
J4 ◀ E8

Figure 4.6: Community Group States by Round
4.5 Conclusion

In the first section 4.2, I explained the test experiment which was carried out with a English mono-lingual environment, in order to obtain an idea of the experiment. This test gave me a feedback of the experiment preparation, including the use of software, creating an account for each round of each participant, a guideline sheet of the task, a sheet with target figures, a sheet indicates their role (either instructor or constructor), user-names and passwords for each round, language of the conversation, and a sheet of declaration for each participant to sign.

The attention of the experiments was on the linguistic coordination which refers to the ‘Input-Output Coordination Principle’, especially in the multi-lingual conversation that one speaker talking in his mother tongue, and the other in his non-native language.

The experimental procedure was summarized after the preparation. From the information of the literatures and previous researches on the linguistic coordination, the Chinese puzzle game “Tangram” task was employed and the two different experimental situations were designed: one ‘monogamous pair’ situation (Section 4.3), which involved eight participants (five Japanese native speakers, three English native speakers) always talk to the fixed same partner throughout the four rounds, switching the language and the roles between the instructor and constructor. The linguistic coordination was conceivable for this situation that each pair converges on a common scheme quickly, so that in the later game they could communicate with the lexicon they used within the pair before. Another situation was the ‘community group’ situation (Section 4.4), involved eight participants (four Japanese native speakers and four English native speakers), and the participants change the conversational partner after each round. Again, they carried out four rounds, so that a common language which built in the entire group could have been seen in the later games.

The chapter that follows will deal with all the results and data I got in the two experiments. All the data and transcription are found in Appendix and the CD attached to this project.
Chapter 5

Results and Discussion

5.1 Introduction

With the experimental results I obtained from the two experiments (Chapter 4), I have completed three main investigations and analyses on linguistic coordination in a Japanese and English environment.

In the word types analysis (Section 5.2), the whole set of data emerging from the entire set of conversations was used to assess the actual words which were utilized by the participants in the experiments. A program was used to calculate the number of shared word types. A shared word type is a word that two people communicating with each other both used in the same conversation. Proximity of use is not analyzed here. The analysis included identifying which shared word types were also shared by the same pair in other conversations and by other pairs. This approximates comparison of the language of a pair and of the entire set of participants in a condition as a totality. To recapitulate I am dealing with four conversations for each subject: two in Japanese and two in English. Within the both language, each has one turn as instructor and one as constructor. Over the community group situation, each participant has four different partners and each within each language, whereas the monogamous pairs have one partner throughout. Further, the second conversation in a language is not always on the same figure. So, to make meaningful the comparison of the second conversation in a language for the community group and monogamous pairs it was necessary to consider if in a few different respects. One of them was the total pair wise comparison of shared types about Tangrams, and others focussed on the individuals.

From the results, the early and late stage conversations in two distinct languages were compared. The early stage was the first two conversations and the late stage was the second two conversations that each participant was engaged in. Because of the difficulty of the task, I measured the success of the participants in the general terms in early stage and late stage games, assuming they would get better over time but perhaps at different rates depending on whether they had the same partner for all four conversations or different partners. Independent of success, sharing word types indicates the existence of linguistic
CHAPTER 5. RESULTS AND DISCUSSION

coordination, thus I intended to investigate whether the Input-Output principle would be supported in this multi-lingual context as in the experimental design of Garrod and Doherty (1994). The results were similar to what I have expected; the monogamous situation increased the shared word types in their second match and the community group pairs on average had fewer shared types with their partners in their second round in each language. Moreover, in the community group word types were shared in the second round within each language by pairs that did not communicate with each other during that round. This did not happen with the monogamous pairs. This shows the effect of community in establishing coordination in language. These results are consistent with the Input-Output principle model (participants did not negotiate their shared types), that conversational partners have a tendency of sharing words and coordinate over time, and this depends on the variety of their conversational partners over time. When the conversation partner is fixed over time (i.e. Monogamous pairs situation), the Input-Output coordination occurs between the partners, but as a group, there was no word shared between pairs. In contrast, the community group did not have strong influence of Input-Output coordination in each partners’ conversation; however, as a group they had a couple of shared words.

The degree of success analysis (Section 5.3) observed the photographs of constructed Tanagram figures which I took after each round of the experiment. I evaluated the photographs by ranking the degree of success for each constructed figure and compared the early and late stages success rates for each language. This analysis assessed the improvement of the construction for each pair. In addition, the questionnaire was also taken in account to investigate the participants’ intuitive remarks. Both, the analysis of constructed figures and participants’ impressions reflected the improvement of Tangram constructions. However, there was an unexpected difference between the two situations: the community group had a higher success rate of construction than the monogamous pairs. This result stands for more understanding between pairs in community group than monogamous pairs, which conflicts the fact that the monogamous pairs shared more types between the pair in the conversation and their success rate was lower.

The Japanese politeness markers analysis (Section 5.4) were investigated by looking at each conversation and searching for a tendency to the usage of politeness markers in the Japanese and English environment. An interesting tendency occurred in nearly all the conversations: the polite form of conversation was used initially and until a non-polite verb ending was seen. This is also a form of linguistic coordination without negotiation. Thus, there was only a small impact on the Japanese language used in my experiments. There was no evident impact on English used with respect to politeness markings in English.

As a reminder of the previous chapter, two main experimental conditions were: the monogamous pair (Section 4.3) where participants were paired with one partner and stayed fixed throughout the experiment, and the community group (Section 4.4) where participants were changing the partner each round, so that by the end of the experiment, each participant of a certain language group had been matched at least once with each participant of the other language group. Eight participants involved in each experiment which made 4 pairs and each participant did 4 games (i.e. rounds) and used both Japanese and English twice in one experiment.
5.2 Word Types Analysis

5.2.1 The Data

The transcriptions of thirty-two conversations (sixteen conversations in two different experimental situations, one conversation per pair within each Tangram games, see Appendix F and G) were saved with the software called Electric Tandem Resources (See Chapter 4, 4.2.3). To estimate similarities among texts I have not embarked on qualitative analysis of conceptualizations that individuals might have used to communicate about their Tangram figures (e.g. the second round Tangram figure discussed in a way, a lowercase “h” or as a “giraffe” etc., vs. some cardinal point expression like “put a small red square, and north of it place a right angle with it long side facing south” vs. some other expressions). Such an analysis could be carried out and in the final remarks of this chapter I sketch such an analysis; however I do not present it as a main result as quantifying the results is so much more subjective. Instead I have employed a suite of programs which have been used to estimate similarities among texts that have been under construction and experimentation in collaboration among other researchers and my supervisor (McCombe, 2002; Van Gijsel, 2002; Van Gijsel & Vogel, 2003; Medori, 2005; O’Brien & Vogel, 2003). This set of programs implemented in Perl calculates the distribution of item sequences in texts, and rates the resulting similarity of distributions in other texts. The sequences can be letter n-grams, word n-grams or part-of-speech tag n-grams. I have used the programs focusing on word unigrams. The programs take all of the transcription files resulting from each game and compare them with all of the others. A chi-squared analysis is calculated to ascertain the difference in the distributions among the files, and a rank ordering of the most similar files is produced. A program implementing the Mann-Whitney significance test on proximity of rank orderings is used to provide a confidence interval in stating how similar two files are. As a by-product, concordance files are produced which detail, for each type, its frequency of occurrences in each of a pair of files under comparison (and for possible pair of files in the set). Thus, it is possible to detail the exact sharing of word types. In the discussion below, I have commented on those sharing, and not the ultimate assessments of similarity among texts. In part this is because some of the comparisons involve individuals talking about different Tangram constructions.

The sixteen participants’ transcriptions were paired (i.e. 120 pairs). This was a very large amount of data, therefore the manual collating of results took over twelve hours to analyze, even with the programs doing the pair wise counts. With the data I obtained from the long run of the programs, the analysis started with looking at the results of word types. ¹ The examples of shared types are following:²

¹Punctuation, including exclamation marks, question marks, colons and brackets were not counted as a type.
²Japanese types are translated in English with in the round brackets.
In both Japanese and English there were several ways of analyses to handle the data. As the program figured out the shared types itself and the number of shared types, I started analyzing by pairing the actual conversations. Thus, this means pairs of pairs up to 4 people. This is because what is shared by pairs of pairs defines what is shared by the community. The thirty-two actual conversations (sixteen monogamous pairs and sixteen community group conversations) were saved in different files, in order to compare the difference between those two situations. There was another concern on comparing the early and late stages, as it resulted the increase or decrease the number of shared types. The monogamous pairs situation was straightforward as the pairs were fixed and did not change the partner throughout the experiment. Thus, the comparison between the early and late games was made by searching for the number of shared types for each game of the pair. This analysis was done for both Japanese and English conversations. The community group situation was slightly more complicated than the monogamous pairs situation. The comparison of early and late stages by pairs was not significant, as the conversational partners switched over time, and the comparison between different pairs did not show the fluctuation of the number of the shared types. Thus, I have compared the number of shared types of the early and late stages by each ‘participant’ (e.g. J1 with E5 and J1 with E7 and so on). Again, this was done for the conversations of both languages.

Another assessment looked at the pair of pairs. The individual rounds of the monogamous pairs and the community group were not directly comparable because of the change of partners in the latter game. As an attempt to the comparison, I looked at shared types
among each pair of pairs in both conditions. For the monogamous pairs situation, a pair’s early game conversation was matched with another pair’s early game conversation, and same for the late game. In total, beginning with four pairs of participants’ conversations six pairs of pairs’ shared types were figured out, and compare the number of shared types for the early and late games for both Japanese and English. Again, for the community group, an extra regards to the various pairs were necessary, as they changer the partner in each round. Thus, the results are reported from the perspective of pairs, and from individual participants by round. Finally, the number of shared types in the whole group were also searched for each situation. This analysis was required to parallel the number of shared types within the group.

As it is seen the above, a lot of analytic methods were considered, however, a subset of the resources were conceivable that the number of shared types results the consistent with the Input-Output principle issue. Thus, in this section I discussed with the results and analysis which reveal the most significant effect of the linguistic coordination.

### 5.2.2 Monogamous pairs Situation

The monogamous pairs situation involved eight participants, four pairs of one Japanese native speaker and one English native speaker. The pairs were fixed throughout the four rounds of game (two in English, two in Japanese). The data of the conversational transcriptions was calculated by a program and then analyzed in two main resources for the monogamous pairs’ situation. The shared types and the number of the shared types were traced to a spreadsheet and analyzed by looking at each pair. The first analysis focused on the difference between the early and late games. With the number of the shared types for each round of each pair a table was drawn up. In addition, the number of shared types for after both games was calculated.

The upper part of Table 5.1 shows the result of Japanese conversation and the bottom part English. As it could be seen, the results of shared lexical types increased over time in both languages. This was an expected result, as the participants had a fixed partner throughout the experiment and they picked up the lexicon from the partner. In the contrast of languages, English conversations built up more shared types than Japanese ones. This is a sight of the intensity of the linguistic coordination, that English language conversation had stronger influence of the Input-Output coordination than Japanese. Overall, the average of the both rounds results the same amount of shared types in both languages.

The next approach to this data was a comparison between the rounds of the pairs with other pairs. From the four monogamous pairs, six pairs of pair (all the alternative pair of pairs in the two different rounds) were considered for each game (See Table 5.2). This analysis was in need of comparison with the community group situation, as it describes

---

3One of the English native speakers turned out to be an Italian native speaker; however, as Italian language closer to English than Japanese I considered him as an English native speaker. Also another English naive speaker was not able to come on the experiment day, therefore an extra Japanese native speaker was added to make the community group. In total, there were five Japanese native speakers and three English native speakers.
the sub-community of the monogamous pairs. The comparison of pairs proved a slight difference between English and Japanese situation. In English conversation, the shared word types decreased by time on the average, but the Japanese conversation increased extremely: 0.17 decrease for Japanese and 3.84 increase. But for the Japanese conversation, two pairs increased the number of the shared types, two remained the same, and two decrease. From this result I could assume that the Japanese conversation had less influence of linguistics coordination than in English. So, statistically, eight out of twelve pairs increased the number of shared types over time this analysis, therefore there is stronger tendency of increase the number of shared types than decrease.

In the both of analyses of monogamous pairs situation I could assume that the number of shared types increased over time. This proves the influence of Input-Output coordination that the fixed pairs tend to coordinate their language and increase the amount of shared lexicon over time.

The shared types analyses showed that some words were shared or certainly copied by the conversational partner. This is more frequent in multi-lingual environment than in mono-lingual environment, as there will always be one of the conversation partners using his foreign language, thereby typically unsure of his linguistic knowledge and tempted to just copy the native speakers’ formulation (Jessel, 2005). This state could have been considered with the pair of Japanese and Japanese situation (J4 and E8 in the monogamous pairs situation.).4 This pair was mono-lingual environment, as both of participants were

---

4One of the monogamous pairs was Japanese and Japanese, as one of English native speaker was absent.
Japanese. From the table 5.1, the only feature I found was their steadiness of the number of shared type in both languages. The comparison between the two languages, the overall shared type in both situations; there is no such regular stability, except the mono-lingual environment pair.

There was only one pair which was examined in mono-lingual situation in my experiment (J4 with E8), as I was expecting to have a multi-lingual environment. However, in a future work, it would be remarkable for the linguistic coordination assessment to compare the difference between native and foreign language conversations of mono-lingual environment (i.e. the bilingual participants communicating in their non-native language each other), so that the effort of using foreign language could be seen, which might affect the coverage on discourses.

### 5.2.3 Community group Situation

In the community group situation, eight participants played four rounds of games in both languages; Japanese and English. The conversation partners were switched to other parts on the experiment day.
ners after each round, therefore each member communicated with all the members of opposite native language speaker in the group (for pair state see Chapter 4, Figure 4.6).

Similar to the monogamous pairs situation, the analysis of community group taken out the number of shared token of each pair’s, however, as they changed the partner the difference between the two games was not comparable. Thus, I chose to analyze the fluctuation of each participant. The table 5.3 shows the result of Japanese language conversation at the upper part and English underneath. There are pairs duplicating in this table. It is because of the description of each participant’s pair wise. As it seen in the table 5.3 the number of shared types both decreased and increased over the time. Half of the group in Japanese conversation decreased but other half increased the number of shared types. In English, most of the shared types decreased over time, except the participant E8. This loss or decrease of the number of shared type is because of the change of conversational partners, presumably. When the conversation partner alters, he has to start coordinating his language with the new partner again, although he had already shared some lexicon with the former partner. Compared with the monogamous pair’s situation, this situation requires more effort to communicate with the partner when they begin a new round, as the partner changed over time. However, it was not mentioned to the participants that they were in the community group situation. One remark on the results in comparison of the shared types is that as a group, the community group situation shared a few lexicon over the group, which was not found in the monogamous pairs situation. From the second analysis of the monogamous pairs (Table 5.2), I attempted to see the situation as a sub-community. The result showed that there was slight increase of the shared types in the second game; however, there was no lexicon shared in the entire group (as there was no shared types in the early game of the both languages). This is another consistency with the Input-Output principle. Hence this result was significant.

5.2.4 Comparison between the Two Situations

The difference between the two situations was considered on the two distinct languages. The English conversation had a stronger influence of decreasing the number of shared types than in Japanese, as some participants increased the number of types in the Japanese conversation. Moreover, the average of the Japanese conversation is quite stable compare as they did not make larger fluctuation than English conversations. This also proved that the English conversation has stronger influence of Input-Output principle.

Another important remark on comparison was on the number of shared types. In the first round the community group had much higher number of the shared types than the monogamous pairs. This was an unexpected result, as there was no difference of situation at the beginning of the experiment. On average overall in that condition, shared types remained relatively stable rather than increasing during the second conversation in each language.\(^5\)

From the sum of the shared word types which was counted and calculated in the anal-

\(^5\)Sharing increased in Japanese and decreased in English.
### Table 5.3: Community group Japanese and English Shared Type by Pairs

<table>
<thead>
<tr>
<th></th>
<th>Japanese Participant</th>
<th>Early game</th>
<th>Late game</th>
<th>After All</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1 with E8</td>
<td>17</td>
<td>J1 with E6</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>J2 with E5</td>
<td>11</td>
<td>J2 with E7</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>J3 with E7</td>
<td>18</td>
<td>J3 with E5</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>J4 with E8</td>
<td>16</td>
<td>J4 with E6</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>E5 with J2</td>
<td>11</td>
<td>E5 with J3</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>E6 with J4</td>
<td>9</td>
<td>E6 with J1</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>E7 with J3</td>
<td>18</td>
<td>E7 with J2</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>E8 with J4</td>
<td>16</td>
<td>E8 with J1</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td>14.5</td>
<td></td>
<td>16</td>
<td>3.63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>English Participant</th>
<th>Early game</th>
<th>Late game</th>
<th>After All</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1 with E5</td>
<td>25</td>
<td>J1 with E7</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>J2 with E6</td>
<td>22</td>
<td>J2 with E8</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>J3 with E6</td>
<td>15</td>
<td>J3 with E8</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>J4 with E7</td>
<td>34</td>
<td>J4 with E5</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>E5 with J1</td>
<td>25</td>
<td>E5 with J4</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>E6 with J2</td>
<td>22</td>
<td>E6 with J3</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>E7 with J4</td>
<td>34</td>
<td>E7 with J1</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>E8 with J2</td>
<td>3</td>
<td>E8 with J3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Average</td>
<td>22.14</td>
<td></td>
<td>10.57</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Analysis of experimental results, I could also conclude that the monogamous pairs situation increased the number of shared type over time, where the community group did not. This states that in multi-lingual environment has similar influence as mono-lingual environment that a speaker coordinates his output with the way in which he processed the input just received. This systematically applies to the Input-Output coordination model. As Garrod and Doherty (1994), noted, the isolated pairs (the monogamous pairs’ situation, in this case) converged quicker on a common scheme but their convergence was not very stable. They eventually reached a maximal coordination level. On the other hand, in the community group, pairs of players were less coordinated in the early games as the isolated pairs were. It clearly took longer in this situation for a common language, and hence a common description scheme to appear. The reason for this is that the group has to first establish a community-wide convention between all its members. Once this is done can they all act according to this convention, and all coordinate as a group. In addition, on a whole in
the community group, language used by each participant was closer to the language of the entire community; whereas in the monogamous pairs there was a more significant difference between the language used by each particular participant and the language used by the group as a whole. It is important to emphasize that in my experiment I have not analyzed sharing of conceptual schemes for describing figures; merely shared linguistic types at the level of words and politeness markers.

5.3  Degree of Success

5.3.1  The Data

Four photographs were taken after each round of the experiment and all the data was saved in the attached CD (See also for an example constructed figure in Figure 4.5 in Chapter Experiment). Totally thirty-two photographs were taken after four rounds of four pairs in two experiments, and analyzed by giving rankings according to the five degree of success, where 5 is perfect constructed Tangram figure and 1 is not close to the actually figure at all. I determined the evaluation system by checking the position, shape, color, and size of Tangram pieces, and starting with 5, I subtracted the points for each incorrect piece of constructed figures. In spite of a very small number of disagreements, this evaluation was confirmed by my supervisor. For analyses, two situations were divided to seek for the difference between the monogamous pairs and the community group.

The participants did not get any feedback on the degree of their success after each round of construction. This was to ensure that improvement in performance could be attributed to just participation in both roles, instructor and constructor. It would be interesting in further research to add feedback vs. no feedback as an experimental condition.

5.3.2  Questionnaire Result

The questionnaire sheet (Appendix ??, page ??) was asked to fill by each participant after the experiment, which questioned which Tangram figure was the most difficult and whether they improved the instruction and construction tasks over time. For the most difficult figure, the majority of the participants chose second Tangram figure, which was a shape of a chair seen from the side (See Figure 4.2). For instructing and constructing, most of the participants reported improvement over time for both tasks. More precisely, for the monogamous pairs situation, 50 percent of participants found that they improved instructing and 62.5 percent found improved construction. For the community group situation, 75 percent found improvement in instructing and 65.2 in constructing. The main difference between the two situations was that the community group found themselves improved in the instruction task than the monogamous pairs.

---

6Less than two dissension among each round.
74 out of 8 participants.
85 out of 8 participants.
Moreover, there was an extra question for the monogamous pairs situation, that the participants were asked how many people they thought that they talked to. The answers were surprising in that most of the Japanese native speakers realized that they were talking to only one or two persons, but most of the English native speakers thought that they had talked to a different partner in each round.

### 5.3.3 Monogamous pairs Situation

By using the same evaluation system stated above, the constructed figures were ranked with degree of success between the numbers 5 and 1. For a perfect construction I gave 5 points and 1 for poor constructions. Table 5.4 shows all the results of the success.

<table>
<thead>
<tr>
<th>Round</th>
<th>Pair</th>
<th>Rank</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J1 with E5</td>
<td>1</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J2 with E6</td>
<td>1</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J3 with E7</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J4 with E8</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>J1 with E5</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J2 with E6</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J3 with E7</td>
<td>4</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J4 with E8</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>J1 with E5</td>
<td>1</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J2 with E6</td>
<td>2</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J3 with E7</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J4 with E8</td>
<td>3</td>
<td>English</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>J1 with E5</td>
<td>1</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J2 with E6</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J3 with E7</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J4 with E8</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2.5</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.4: Degree of success ranking of Monogamous Pairs

From this table, a further analysis was processed. Each pair’s construction was taken out and the difference between the early and late stage of Tangram constructions was calculated. The division of early and late games was made among the languages, as there were two conversations made by same pairs in same language (e.g. Round 1, pair J1 with
E5 in English vs. Round 2, pair J1 with E5 in English, and so on). The monogamous pairs situation shows the improvement of Tangram figure construction in average of 0.12 point (Early game: 2.38, Late game: 2.50). The average of construction over all was 2.44 points.

5.3.4 Community group Situation

Similar analyses were carried out for community situation. The degree of success was rated between 5 and 1. For the community situation, each participant’s construction was taken out and the difference between the early and late games was compared. The result of the improvement was 0.25 points (Early game: 2.88, Late game: 3.13), which was slightly higher than the monogamous pairs situation. The average of construction over all was 3.00. This result relates to the participants’ answer of questionnaire, which indicated more improvement in the community group situation. However, over all results seem that the community group had higher degree of success than monogamous pairs condition.

<table>
<thead>
<tr>
<th>Round</th>
<th>Pair</th>
<th>Rank</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J1 with E5</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J2 with E6</td>
<td>5</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J3 with E7</td>
<td>1</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J4 with E8</td>
<td>1</td>
<td>Japanese</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>J1 with E8</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J2 with E5</td>
<td>2</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J3 with E6</td>
<td>3</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J4 with E7</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>J1 with E7</td>
<td>1</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J2 with E8</td>
<td>5</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J3 with E5</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J4 with E6</td>
<td>1</td>
<td>Japanese</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>J1 with E6</td>
<td>3</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J2 with E7</td>
<td>4</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td>J3 with E8</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>J4 with E5</td>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>3.75</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.5: Degree of success ranking of Community Group
5.3.5 Comparison between the Two Situations

The comparison between the two situations was investigated by looking at the average of the success scores. The line graph in Figure 5.1 illustrates the improvement of the Tangram figures construction over time. The community group had much higher success rate at the beginning and advanced by 1.00 point in the last game. On the other hand, the monogamous pairs only improved half of the rate of the community group. However, these results did not rest upon the Input-Output model of the linguistic coordination principle as the Input-Output Coordination Principle was not employed for the degree of the success.

According to the participants’ impressions of instruction and construction improvement, most of them found that they got better in their task over the time. The result was analyzed with my evaluation of ranking between 5 and 1 and the analysis shows definite improvement of Tangram figure construction. Contrary to the expected result, the community group situation had higher rank of degree of success than monogamous pairs situation, in spite of less linguistic coordination of Input-Output coordination model. This effect is contradictory to the understanding of the conversation between instructor and constructor.

5.4 Politeness Markings

For investigation of politeness marking in the Japanese and English environment, I have chosen to analyze the data by going through each conversation to detect the tendency of the impact of Japanese language politeness markers (for Transcriptions see Appendix F, page 83). I was expecting many politeness markings, especially in Japanese conversations, as participants did not have contact before the experiment, and I assumed that naturally conversation start with a polite form when they do not know each other.

However, most of the conversations were in friendly form which did not show many politeness markings. This is partly explained, probably, by the very short duration of the task which participants were informed of, and which thus limited introductory messages to brief greetings. After the experiments, some participants volunteered that because of the limited time duration, they did not have enough time to think about being polite. Moreover, the environment of the chat approach and alphabet typing (Romaji) made them less formal. These points should be considered in further work with the Japanese language.

An interesting tendency of the politeness markings was the loss of politeness markers by English native speakers after a few interactions. The Japanese native speakers adjusted by also using non-polite form, once the English native speaker started using friendly expressions. For example, in monogamous pair J1 and E5 always started conversations with the verb endings “-desu”, “-masu”, which expresses polite form, but after the English native speaker left out the verb ending of “-desu” once, the conversation changed into friendly communication. However, there were some Japanese native speakers who used polite form throughout the conversations. In this case, English native speaker also tried to use the politeness markers. Similarly in the community group, most of the discourses began in polite
Figure 5.1: Success Rate Over Time
form; however, after a few communications the politeness markers disappeared. This was seen in both the monogamous pairs and the community group situations. More detailed analysis was carried out by timing the adjustment of politeness markers in conversations. In the monogamous pairs situation, after an average of 6 minutes, the politeness marker disappeared and Japanese native speaker continued the conversation without politeness markers. Moreover, 6 out of 8 participants stopped using polite form once the communication was switched into no polite form. In the community group, after average of 4.5 minutes, Japanese speakers picked up the none of the polite form from the English native speaker, and 2 out of 8 participants lost the polite form completely after a few minutes of interactions.

From this analysis, I could conclude the difference of the two conditions. There was a tendency that the monogamous pairs was slower at conforming to the conversational partner’s expressions; whereas the community group had quicker adaptation. This is not an evidence of the Input-Output Coordination Principle; however I could considered as a reflection on linguistic coordination that the form of expression was taken in from his conversation partner.

In most of the English conversations neither politeness nor impoliteness were seen, because there are no explicit markers as such. There was no such an influence in English conversation, except some participant used the form of “could you” or “would you” at the beginning of the conversation, which as subjunctive seems more indirect and hence more polite than imperatives. Lastly, there was one English native speaker in the monogamous pair situation, who used the politeness marker ‘please’ in his conversation. This incident could be assumed that the earlier Japanese discourses in polite form affected the language in his mother tongue. However, again, similar to the Japanese conversation, it was considerable that cause of the limited time and the chat style of conversation, probably precluded use of marked politeness.

5.5 Conclusion

Three main analyses completed after the experiments. The first analysis (Section 5.2) assessed the number of shared types which was discussed with a consistent with the linguistic coordination model, Input-Output Coordination Principle. The analysis looked at each conversation from the experiments. Over thirty-two conversations were analyzed with a program which helped me to find the lexicon types shared between the partners in the conversations. It would separately be interesting to consider total instances of shared types, but that is left for further analysis. In brief, the total number of shared types was roughly equivalent to the total number of shared tokens. To compare the two distinguish situations, the monogamous pairs’ result was reported from the perspective of pairs and the community group was from individual participants. The number of shared types was as expected: the monogamous pairs situation contained more shared types over time than the community group. This occurred because of the difference between the fixed partner
and changing partner throughout the experiment. The linguistic coordination impact was seen here that the monogamous pair increased the number of the shared lexicon but the community group did not. In addition, the shared types over group was different between the two situations. The monogamous pairs did not share any lexicon in their community, but the community group has shared a few. This is another consistency with the Input-Output principle. Moreover, the data was also divided into two languages, Japanese and English. The difference between these two analyses was not clearly seen, however one remark on language was that the conversation in Japanese had less fluctuation of the number of shared types over time. In other words, the influence of Input-Output coordination was weaker in Japanese conversation. Over time, Japanese conversation exhibited fewer shared types than English conversation did.

The second analysis (Section 5.3) was based on the photographs which were taken after each round. thirty-two photographs were estimated between 5 and 1 (5: perfect, 1: poor), and investigated whether the rank improved over time or not. Interestingly, the rates improved over time for both monogamous pairs and community group situations, but there was more improvement in the community group situation. This is probably to be expected because of the changing partners and the overall difficulty of the task. Again, there was no relevant concern of the Input-Output Coordination Principle on this discussion.

Lastly, the Japanese politeness markers were investigated (Section 5.4) by looking each transcription of the experimental conversations. There was only small number of conversation which were carried out in polite form; however, a tendency was found that the polite conversation switched into non-polite conversation once a friendly expression was used. This happened to most of the pairs which started their conversation with polite form. For the monogamous pairs and the community group, the shift from the polite form to “not polite” occurred in 6 and 4.5 minutes, respectively. This difference was not regarded as a Input-Output Coordination Principle; however, I considered this tendency of adapting the conversation partner’s expression as a form of the linguistic coordination.

These analyses of the two experiments gave me the concept of linguistic coordination in Japanese and English environment. The results clearly show an influence of variation in conversational partners on linguistic coordination.
Chapter 6

Conclusion

6.1 Achievements

In this research project, I have investigated the phenomenon of linguistic coordination in a multi-lingual environment of Japanese and English. From the results of two distinct experimental conditions: the ‘monogamous pairs’ and the ‘community group’, I have gained an insight into the different effect in those two conditions, and more importantly, how people formulate and process language within their native language and their non-native language. Another consequence of note that I found in this project is the impact of Japanese language to English and vice versa.

6.2 Summary of Linguistic Coordination

The main conclusions I drew from my experimental data were for most part consistent with the literature. By analyzing the shared word types (Section 5.2), the number fluctuates according to conditions. In the monogamous pairs’ condition, the number of shared types increased over time, which proved the stronger coordination between the partners. This result is fully consistent with the Input-Output Coordination Principle. On the other hand, the ‘community group’ condition did not increase the number of shared types, which demonstrated the time duration of their establishment of the ‘community-wide’ language, which the greater amount of changing of partners. The analysis of degree of success (Section 5.3) did not support this principle, as the data manifested the improvement of participants’ performance the task over time, regardless of the increase or decrease of shared types. This demonstrates that success in the communication task improved without increased linguistic coordination.

Another practical approach to linguistic coordination was the study of the influence of Japanese language features. I showed how the language differ in important respects and showed influences between Japanese and English in speakers with both languages. In the politeness markings analysis (Section 5.4), I discovered a tendency of language change from the polite form to non-polite form in Japanese conversations. This was seen in most of the
conversations, after one politeness marking was dropped out by the English native speaker. The adaptation of the partner’s language and the conversion of language politeness level occurred without any negotiation. This is another instance of speakers matching their output to the input they receive from their partners.

### 6.3 Further Research

There are several remarks I would like to mention before closing this project report. In my research analyses, I have mainly discussed on the word types which the speakers shared in their conversations; however, there were many other ways of analyzing the data. I found an instruction strategy in the community group situation, which was employed by instructors in the later games. The strategy was to inform the constructor of the necessary pieces at the beginning of the conversations, which improved efficiently for the constructor by limiting the number of pieces to communicate about in placing correctly. On the other hand, most of the instructions in the monogamous pair tended to start with instructions describing the overall shape of the tangram figure, which seems to be a more popular approach. There was also an interesting conceptual difference between the speakers. A instructor explained the figure 2 (Figure 4.2 in Chapter 4) as a giraffe; whereas other the instructor described a small letter ‘h’. Furthermore, as described below, a partner in the monogamous pair condition used the words such as ‘north’ and ‘east’ to express the directions. This lexicon was only used between those partners; whereas most of the participants described ‘top’ or ‘left’.

***********
***********
Sat 25/03/06 16:05:28 137ece -> 133jie

which direction is the triangle pointing? for example if it was an arrow would it be pointing north? south? south east?

***********
***********
Sat 25/03/06 16:07:14 133jie -> 137ece
Pink points to north, blue points to west.

These instances provide another view of the coordination between the speakers, because they adopted the strategy and/or expressions that the conversational partner used previously. It may perhaps be interesting to investigate whether these instances occur in other languages or not.

As I mentioned in Chapter 5, an experiment within both monolingual and multi-lingual environments, ideally with bilingual participants, would be also an interesting setting to
compare the language influence in other languages. Recall that this was due to an accident of people arriving or not at the day of the scheduled event. Two Japanese people had to participate as if one was a native English speaker. There was only one monogamous pair of which played in the monolingual environment, but there was slightly difference with other pairs. It would useful to conduct the same experiment with language alternation as it went here and with another condition of solely Japanese communication among only native Japanese speaker in order to assess any change in politeness marking just among Japanese communicators. Moreover, there were two more incidents I found in the experiment: loss of determiner of English naive speaker and politeness marks emphasized in English conversation. In Japanese, instead of definite and indefinite determiners, there is a counting system which depends on the noun. Therefore Japanese native speakers tend to forget the determiners in the English conversation. Presumably from this habit of Japanese speakers, there was an occurrence of a determinerless sentence composed by an English native speaker. The second sign of the impact of the Japanese language was the usage of English politeness marker ‘please’. This followed initial use of the English politeness expression by a native Japanese speaker. A participant used the word ‘please’ repeatedly in his conversation, although use of the word trailed off during the conversation. He was in the monogamous pair condition and had polite form conversations in the first two Japanese conversation. These two incidents are not strong enough to declare whether they are tendency of the Japanese influence; however, these findings could be considered in the further work.

6.4 Concluding Remarks

As I stated above, there is a large difference between the Japanese and English languages. The most difficult part in this project was to write up all the details and explain the research substance in my second language. I hope that I managed to describe my interest in the phenomenon of linguistic coordination in this project.
Bibliography


Appendix A

Pre-experiment 1 Material

Pre-experiment 1

• Please read the following dialogues and note whether the conversations or expressions are appropriate to the picture or not. If not indicate why you think so.
(Under the picture ‘R’ refers to the person on the right hand and ‘L’ refers to the person on the left hand side)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.

• How long have you been living outside Japan? Please write name of country and the duration you spent time there.

Thank you for your participation!!
Figure A.1: Pre-experiment 1 (Picture 5) Expected polite example

R:

*Sumimasen, chotto sore hirotte itadakemasenka?*

Excuse-me, (small-favor) that pick-up do(PM)

‘Excuse me, could you pick that up for me?’

L:

*A kore desune. Ohroi shimasu.*

Oh this is. Pick-up(PM) do.

‘Oh, this one. I will pick it up for you.’
Figure A.2: Pre-experiment 1 (Picture 3) Expected impolite example

L:

Oi, ima nanjida?
Hey, now what-time?

‘Hey, what time is it?’

R:

Tadaima gozen 5ji 23pun 43byoude gozaimasu.
Now a.m. 5o’clock 23minute 43second is(PM).

‘It is 5:23:43, Sir.’
Figure A.3: Pre-experiment 1 (Picture 11) Unexpected polite example

R:

5 kakeru 3wa 15de gozaimasu.
5 multiply 3 15 is(PM).

'5 multiply 3 is 15.'
Figure A.4: Pre-experiment 1 (Picture 6) Unexpected impolite example

R:

_Terebi ga mi nainode doite kudasai._
TV     can’t-see      move please.

‘I cannot see the TV well, so please move over.’

L:

_Hai, shou chi      shimash ita._
Yes, understand(PM) did.

‘Yes, ma’am.’
Figure A.5: Pre-experiment 1 (Picture 8) Filler example

R:

*Kimiwa bokuga ichiban sukina anime kyarakuta-desu.*
You my best like cartoon character are.

‘You are my favorite cartoon character.’
Appendix B

Pre-experiment 2 Material

Please read the next passage and place the answer 1-4 in the ********** spot. For each answer, write whether the conversation is appropriate or not, and if not indicate why it is inappropriate.

This is a story in a company.

A section manager A and a department manager B are having a meeting on a new product project.

This new product project idea came up from market research section where manager A works; therefore manager A has to explain about this product to manager B. To show his business achievement manager A devotes himself to this project by holding a lot of meetings with his subordinates and collecting many business data.

Manager B: I understood about this new product, but why the production expense is so high?

Manager A: Yes, our company have confidently sold cheap cost production until now. However from our previous market research we have noticed that our customers are looking for better quality product. From this result, we need at least this production expense for the new product.

Manager B: And you think with this expense, it will make a profit, don’t you?

Manager A: Yes, I think our market research results are right. I believe in my subordinates research results.

Manager B: Ok, I understood. Then let us bring this project plan to our development section.
Manager A: Thank you, sir. Then, **********, right away.

Option Answers

1. I will hand in the development plan.
2. I will hand in the development plan. (polite)
3. Why don’t we go for sake tonight?
4. Let us bring this project plan to our development section.
Appendix C

Pre-experiment 3 Material

Pre-experiment 3

- Please compose an appropriate expression for each picture.

(Under the picture ‘R’ refers to the person on the right hand and ‘L’ refers to the person on the left hand side)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.

Thank you for your participation!!
Figure C.1: Pre-experiment 3 (Picture 4) Filler example

R:

*Kimiwa nante sutekina to-suta-nandeshou.*
You how beautiful toaster are.

'How beautiful toaster you are!'
Figure C.2: Pre-experiment 3 (Picture 7) Filler example

L:

Youkoso wagayae.
Welcome my-home.

‘Welcome to my home’
Figure C.3: Pre-experiment 3 (Picture 7) Filler example

R:

Oishii okoucha ikaga desuka?
Tasty tea you-like do?

‘Would you like a nice cup of tea?’
Figure C.4: Pre-experiment 3 (Picture 9) Expector impolite example

R:

*Motto ude wo nob shite kudasai.*
More arms stretch please (PM).

‘Could you please stretch your arms more?’
Appendix D

Experimental Material

Tangram Experiment

- Please ensure that you have been supplied with:
  1. A sheet with instructions (descriptions of each round)
  2. A set of Tangram figures

- You will be communicating with other participants who will have a sheet with different Tangram figures and a set of construction pieces, whose colours match the ones used in the figures on your sheet. Following your personalized instruction sheet, you must alternately:

  1. **Give instructions** (by typing them into the conversation window) to your conversant so that he/she can reconstruct the figure which is on your sheet using his/her construction pieces.
  2. Receive instructions i.e. **construction**, which will be given to you by another participant (they will appear in the conversation window) and following them, construct a figure with the construction pieces you have been provided with.

- When you feel that you have constructed the correct figure or that the participant you are instructing has done so (maximum time per figure: **15 minutes**) please call one of the "assistants", so she can take a photograph of the figure you have just built or instructed.

- Once the 15-minute deadline is up, you must move on to the next round, by clicking on the participant on your list indicated on your instruction sheet.

- You can interact as much as you like with your conversation partner, as long as you respect the language restrictions.
• Please do never exit any conversation window on your screen! (unless you have been instructed to do so)

• Please do not destroy the figure you have just built until a photograph of it has been taken!

• Please sign the declaration hereunder.

_ I, ................................., hereby confirm that, after having read the above information, I agree to participate in the experiment described. I have been informed that participation is voluntary and that at any time and without giving a reason, I may withdraw my undertaking to participate. I am also aware that my conversations are being recorded for further analysis and give my consent for the results to be published.

Signature:
Date:

Questionnaire:

• Which figure did you find the most difficult?

• Did you improve at instructing?

• Did you improve at constructing?

• How many people do you think you talked to?

Thank you very much!!!
Appendix E

Experiment Guideline

E.1 The Monogamous Pairs Situation

E.1.1 Participant 1

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>111jie</td>
<td>111jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>121jce</td>
<td>121jce</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>131jij</td>
<td>131jij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>141jcj</td>
<td>141jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

E.1.2 Participant 2

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>112jie</td>
<td>112jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>122jce</td>
<td>122jce</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>132jij</td>
<td>132jij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>142jcj</td>
<td>142jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>
APPENDIX E. EXPERIMENT GUIDELINE

E.1.3 Participant 3

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>113jij</td>
<td>113jij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>123jcj</td>
<td>123jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>133jie</td>
<td>133jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>143jce</td>
<td>143jce</td>
<td>Constructor</td>
<td>English</td>
</tr>
</tbody>
</table>

E.1.4 Participant 4

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>114jij</td>
<td>114jij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>124jcj</td>
<td>124jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>134jiee</td>
<td>134jiee</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>144jce</td>
<td>144jce</td>
<td>Constructor</td>
<td>English</td>
</tr>
</tbody>
</table>

E.1.5 Participant 5

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>115ece</td>
<td>115ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>125eie</td>
<td>125eie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>135ecj</td>
<td>135ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>145eij</td>
<td>145eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>
### E.1.6 Participant 6

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tanagram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>116ece</td>
<td>116ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>126eie</td>
<td>126eie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>136ecj</td>
<td>136ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>146eij</td>
<td>146eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

### E.1.7 Participant 7

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tanagram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>117ecj</td>
<td>117ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>127eij</td>
<td>127eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>137ece</td>
<td>137ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>147eie</td>
<td>147eie</td>
<td>Instructor</td>
<td>English</td>
</tr>
</tbody>
</table>

### E.1.8 Participant 8

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tanagram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>118ecj</td>
<td>118ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>128eij</td>
<td>128eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>138ecee</td>
<td>138ecee</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>148eie</td>
<td>148eie</td>
<td>Instructor</td>
<td>English</td>
</tr>
</tbody>
</table>
E.2 The Community Group Situation

E.2.1 Participant 1

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11jie</td>
<td>11jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>21jcj</td>
<td>21jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>31jie</td>
<td>31jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>41jcj</td>
<td>41jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

E.2.2 Participant 2

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12jie</td>
<td>12jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>22jcj</td>
<td>22jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>32jie</td>
<td>32jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>42jcj</td>
<td>42jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

E.2.3 Participant 3

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13jjj</td>
<td>13jjj</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>23jcee</td>
<td>23jcee</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>33jcj</td>
<td>33jcj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>43jie</td>
<td>43jie</td>
<td>Instructor</td>
<td>English</td>
</tr>
</tbody>
</table>
## E.2.4 Participant 4

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14jij</td>
<td>14jij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>24jcc</td>
<td>24jcc</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>34jcc</td>
<td>34jcc</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>44jje</td>
<td>44jje</td>
<td>Instructor</td>
<td>English</td>
</tr>
</tbody>
</table>

## E.2.5 Participant 5

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15ece</td>
<td>15ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>25eij</td>
<td>25eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>35eij</td>
<td>35eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>45ece</td>
<td>45ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
</tbody>
</table>

## E.2.6 Participant 6

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16ece</td>
<td>16ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>2</td>
<td>26eiee</td>
<td>26eiee</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>36eij</td>
<td>36eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>4</td>
<td>46eij</td>
<td>46eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>
### E.2.7 Participant 7

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17ecj</td>
<td>17ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>27eie</td>
<td>27eie</td>
<td>Instructor</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>37ece</td>
<td>37ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>47eij</td>
<td>47eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

### E.2.8 Participant 8

<table>
<thead>
<tr>
<th>Round</th>
<th>Username</th>
<th>Password</th>
<th>Tangram</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18ecj</td>
<td>18ecj</td>
<td>Constructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>28eij</td>
<td>28eij</td>
<td>Instructor</td>
<td>Japanese</td>
</tr>
<tr>
<td>3</td>
<td>38ece</td>
<td>38ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>48ece</td>
<td>48ece</td>
<td>Constructor</td>
<td>English</td>
</tr>
</tbody>
</table>
Appendix F

The Monogamous Pairs Transcription

F.1 The monogamous pairs Round 1

F.1.1 J1 with E5

Sat 25/03/06 15:24:11 115ece -> 111jie
hello

Sat 25/03/06 15:26:35 115ece -> 111jie
ready to goooo

Sat 25/03/06 15:27:12 111jie -> 115ece
it's a shape like a house.

Sat 25/03/06 15:28:15 115ece -> 111jie
here we gooo

Sat 25/03/06 15:29:09 111jie -> 115ece
bottom part is a reqtangular.
it has a big red triangle on left bottom*and a green triangle on it.

Sat 25/03/06 15:33:01 111jie -> 115ece
on the right hand side of bottom part, there is a small green square.
on top of it a samll pink reqtangular is laid on beside a gig green triangle.

Sat 25/03/06 15:36:14 111jie -> 115ece
on the small triangle, there is a small blue triangle.

Sat 25/03/06 15:38:51 111jie -> 115ece
on the left side of roof part, a pink triangle is laid on. the longest line is face t

Sat 25/03/06 15:41:39 111jie -> 115ece
on the rigth hand side of roof, a yellow diamond shape is laid. the longest line is f
F.1.2  J2 with E6

Sat 25/03/06 15:24:38 116ece -> 112jie
Hey how are things? I’m a bit confused but I’ll give it my best

Sat 25/03/06 15:26:46 112jie -> 116ece
first of all make a triangle which has two line with same length. Make sure it is red coller

Sat 25/03/06 15:27:35 112jie -> 116ece
Actually it is really hard to explain... I’ll try my best anyways.

Sat 25/03/06 15:27:55 116ece -> 112jie
ok thanks

Sat 25/03/06 15:28:35 116ece -> 112jie
thanks a million

Sat 25/03/06 15:30:20 116ece -> 112jie
ok what's next?

Sat 25/03/06 15:33:24 116ece -> 112jie
ok what's next?

Sat 25/03/06 15:40:14 116ece -> 112jie
Don’t know what's wrong sorry for being useless

F.1.3  J3 with E7

Sat 25/03/06 15:24:39 117ecj -> 113jij
konnichiwa!

Sat 25/03/06 15:24:23 113jij -> 117ecj
konnichiwa!

Sat 25/03/06 15:25:28 113jij -> 117ecj
Ie no youna katachi desu.
Pink no sannkakkei ha arimasuka?

Sat 25/03/06 15:26:38 113jij -> 117ecj
Pink no sannkakkei wo "ie" no yane ni shitekudasai

Sat 25/03/06 15:26:25 117ecj -> 113jij
hai, arimasu. sore ha yane desu ka?

Sat 25/03/06 15:27:21 117ecj -> 113jij
ryoukai. shimashita.

Sat 25/03/06 15:28:02 117ecj -> 113jij
sono tsugi ha?

Sat 25/03/06 15:28:14 113jij -> 117ecj
Kiiro no hishigata ha arimasuka?
Pink no yoko ni narabete kudasai.
"Ie" no yane ga dekita???

Sat 25/03/06 15:30:10 113jij -> 117ecj
Pink no sannkaku to Kiiro no hishigata wo narabeta?

Sat 25/03/06 15:30:21 117ecj -> 113jij
ie no yane wo okimashita. gomen nasai ga hisigata ha wakaranai.

Sat 25/03/06 15:31:17 113jij -> 117ecj
Shikaku mitai. Naname no shikaku.

Sat 25/03/06 15:33:36 117ecj -> 113jij
tabun wakaru. kedo kirei ni narabu no ha dekinai.

Sat 25/03/06 15:35:05 113jij -> 117ecj
Ja, ookina midori to aka no sannkaku wa aru? Midori to aka no sannkaku de shikaku wo

Sat 25/03/06 15:36:58 113jij -> 117ecj
Wakaru? Wakaranakattara kiite kudasai!

Sat 25/03/06 15:36:46 117ecj -> 113jij
aru! tsukutta. tsukatta shikaku ha pink no yane no shita desu ka? ki iru no yatsu ha

Sat 25/03/06 15:38:29 113jij -> 117ecj
Sousou! Pink no shita! Ja, chiisai ao to pink no sankaku de shikau wo tukutte! Sore wo

Sat 25/03/06 15:38:37 117ecj -> 113jij
pink no yane ha ookii desu ka? (shikaku ni au saizu kana) chiisai desu ka?

Sat 25/03/06 15:41:35 117ecj -> 113jij
ryoukai! demo shikaku desu ga, midori ha nishi kita ni mukatte iru. atteimasu ka?

Sat 25/03/06 15:39:29 113jij -> 117ecj
GOMEN, midori to aka no shikaku no YOKO. (SHITA ja nai!!)

Sat 25/03/06 15:41:10 113jij -> 117ecj
Pink no yane ha shikakuni au saizu. Shikaku ga "Ie" de, Pink no yane wo nosete kudasai!

Sat 25/03/06 15:42:17 117ecj -> 113jij
yoko to iu ga sore ha hidari ka migi ka?

F.1.4 J4 with E8

Sat 25/03/06 15:24:20 118ecj -> 114jij
konnitiha

Sat 25/03/06 15:25:17 114jij -> 118ecj
itiban ookii akano sannakakkei wo hidarisita ni

Sat 25/03/06 15:26:31 118ecj -> 114jij
dochara muki desuka

Sat 25/03/06 15:26:35 114jij -> 118ecj
sono aka no sannkakkei no okikata ha kakudo 90do ga hidarisita ni naruyou ni

Sat 25/03/06 15:27:32 118ecj -> 114jij
hai okimashita

Sat 25/03/06 15:27:42 114jij -> 118ecj
tugi ni onaji ookisa no itiban ookina midori iro no sankakkei wo aka no ue ni oite

Sat 25/03/06 15:28:34 114jij -> 118ecj
sono midori no sannkakkei no okikata ha sakkino aka no sannkakkei to awasete seihoukei

Sat 25/03/06 15:28:44 118ecj -> 114jij
itiban ookii hen ga mukiau youni oite iino desuka

Sat 25/03/06 15:29:13 118ecj -> 114jij
okimasita

Sat 25/03/06 15:30:45 118ecj -> 114jij
okimasita

Sat 25/03/06 15:31:23 118ecj -> 114jij
MESSAGE

Sat 25/03/06 15:33:09 114jij -> 118ecj
tugi ni sono midori no sannkakkei no ue ni pink no sankakkei wo oite
sono pink ookisa ha sono pink no itiban nagai tokoro ga midori no mijikai sen to onaji

Sat 25/03/06 15:33:37 114jij -> 118ecj
imamade message yonndenakattadesu gomennchai

Sat 25/03/06 15:34:23 118ecj -> 114jij
OKIMASITA
APPENDIX F. THE MONOGAMOUS PAIRS TRANSCRIPTION

Sat 25/03/06 15:33:58 114jij -> 118ecj
ok? situmonn ha?

Sat 25/03/06 15:35:11 118ecj -> 114jij
dajobudesu.

Sat 25/03/06 15:35:25 114jij -> 118ecj
tugi ha tiisai midori no seihoukei wo midori no sankakkei no migi ni oite

Sat 25/03/06 15:36:44 114jij -> 118ecj
tugi ha pincku no tiisai sannakkakei wo sono midori no seihoukei no ue ni oite

Sat 25/03/06 15:36:08 118ecj -> 114jij
itiban tiisai no desuka?

Sat 25/03/06 15:37:00 114jij -> 118ecj
itiban tiisainonn

Sat 25/03/06 15:37:34 118ecj -> 114jij
midorino to pinckno sankakkei ha dono ookisa desuka?

Sat 25/03/06 15:38:33 114jij -> 118ecj
sono pinck no sannakkakei to onaji ookisa no ao no sannkakkei wo oite
okikata ha pinck to kasanetatoki ni seihoukei ni naruyouni

Sat 25/03/06 15:38:36 118ecj -> 114jij
midori to pinck no sankakkei no okikatawa?

Sat 25/03/06 15:39:33 114jij -> 118ecj
midori no sannkakkei ha itibann ookii
pinck ha sono midori no hannbunn no ookisa

Sat 25/03/06 15:39:52 118ecj -> 114jij
okimasita

Sat 25/03/06 15:40:30 114jij -> 118ecj
midori no mijikai toko to pinck no nagai toko ga onaji ni naruyouni

Sat 25/03/06 15:41:09 118ecj -> 114jij
imanoha nibannme no midori to pinck no sankakkei no koto desuka?

Sat 25/03/06 15:41:46 114jij -> 118ecj
saigon ni kiiro no heikou sihennkei
(hisigata ppoiyatu) wo ookihiou no pinck no sannkakkei no migi ni oite
F.2 The monogamous pairs Round 2

F.2.1 J1 with E5

Sat 25/03/06 15:45:49 121jce -> 125eie
hello.i’m ready.

Sat 25/03/06 15:45:59 125eie -> 121jce
hello ready to gooooo?

Sat 25/03/06 15:47:30 121jce -> 125eie
can you expalin first genaral shape?

Sat 25/03/06 15:46:16 125eie -> 121jce
imagine a giraffe

Sat 25/03/06 15:46:52 125eie -> 121jce
the shape of a giraffe.....have ever been in the jungle?

Sat 25/03/06 15:46:51 125eie -> 121jce
...in temple bar....
so the left foot is a green square and the right a small blue triangle

Sat 25/03/06 15:48:24 125eie -> 121jce
a giraffe ..... 

Sat 25/03/06 15:51:28 121jce -> 125eie
no ,i haven’t.which side is the giraffe head ?

Sat 25/03/06 15:53:01 121jce -> 125eie
ok.What’s on the blue triangle?

Sat 25/03/06 15:48:56 125eie -> 121jce
the long neck is on the left side of the body

Sat 25/03/06 15:49:21 125eie -> 121jce
so let’s start from the feet

Sat 25/03/06 15:50:10 125eie -> 121jce
imagine the left foot has the shap of a dark green square

Sat 25/03/06 15:50:46 125eie -> 121jce
do you follow me?

Sat 25/03/06 15:51:31 125eie -> 121jce
then on the top of the left side sqaure the is a red triangle

Sat 25/03/06 15:52:07 125eie -> 121jce
ok the head is on the left side
Sat 25/03/06 15:52:24 125eie -> 121jce
if you are facing your computer

Sat 25/03/06 15:52:50 125eie -> 121jce
ok?

Sat 25/03/06 15:53:52 125eie -> 121jce
so the left foot is a dark green square and the left ones a dark blue triangle.
the corner of the triangle is on the left side

Sat 25/03/06 15:54:43 125eie -> 121jce
on the blue triangle there is a piece of the body of the gialffe, which means a big green

Sat 25/03/06 15:55:18 125eie -> 121jce
but this time the corner of this big green triangle is on the right side

Sat 25/03/06 15:55:02 121jce -> 125eie
WHAT’S ON THE GREEN SQUARE ON THE LEFT

Sat 25/03/06 15:57:30 121jce -> 125eie
yes,I’M JUST WAITING .WHAT’S ON THE GREEN SQUARE AND BLUE TRIANGLE?

Sat 25/03/06 15:59:33 121jce -> 125eie
OK.WHAT’S ON THE BLUE TRIANGLE IN THE RIGHT?

F.2.2 J2 with E6

Sat 25/03/06 15:45:13 126eie -> 122jce
Hope this works this time

Sat 25/03/06 15:47:01 126eie -> 122jce
Take a small pink triangle and make it so it look like half a square.

Sat 25/03/06 15:48:36 122jce -> 126eie
hi!

Sat 25/03/06 15:49:10 126eie -> 122jce Place the yellow shape that is
not a square or triangle(please forgive me I don’t know it’s name)
below the pink triangle. Thw yellow shape looks like a yellow diamond.

Sat 25/03/06 15:48:54 122jce -> 126eie
I made it!

Sat 25/03/06 15:51:16 126eie -> 122jce well done .please get another
pink triangle which is a little bigger than the first triangle and make it fit in under the yellow shape.

Sat 25/03/06 15:50:29 122jce -> 126eie
Where exactly I should place it?

Sat 25/03/06 15:52:27 126eie -> 122jce Sorry I AM USELESS AT THIS. THE YELLOW shape SHOULD FIT IN NEATLY UNDER THE first pink triangle.

Sat 25/03/06 15:54:13 122jce -> 126eie
No No don worry it is hard you know..
Yep I did it

Sat 25/03/06 15:54:56 126eie -> 122jce Underneath the second pink triangle please place a large red triangle. The red triangle SHOULD POINT TO the right hand side.

Sat 25/03/06 15:56:29 126eie -> 122jce
You have the patience of a saint. underneATH THE RED TRIANGLE PLACE a small green square.

Sat 25/03/06 15:58:19 122jce -> 126eie Ok, and then?

Sat 25/03/06 16:00:05 126eie -> 122jce The overall shape is meant to look like the letter h. There are two more pieces. A large green triangle and a small blue triangle/If you can try and place these triangles so that you can complete a h. There should be a small space between the green square and the blue triangle.

F.2.3 J3 with E7

Sat 25/03/06 15:45:23 127eij -> 123jcj
konnichiwa!

Sat 25/03/06 15:45:39 123jcj -> 127eij
Konnichiwa-!!

Sat 25/03/06 15:47:25 127eij -> 123jcj
ja, mazu chiisaina pinku no sankaku wo ue ni oite kudasai. kita nishi ni mukatte.

Sat 25/03/06 15:48:00 123jcj -> 127eij
Okimashita!

Sat 25/03/06 15:49:23 127eij -> 123jcj
sono shita ni ki iro no "kawatteiru" shikaku wo oite kudasai. gomen kono katachi no nai.

Sat 25/03/06 15:50:27 127eij -> 123jcj
sono shita ni mo hitotsu no motto ookina pinku no sankaku wo oitekudsai.
APPENDIX F. THE MONOGAMOUS PAIRS TRANSCRIPTION

Sat 25/03/06 15:51:33 123jcj -> 127eij
Naname ni nagai shikaku kana? Pink no sankaku ni au youni okimasuka?

Sat 25/03/06 15:53:09 127eij -> 123jcj
jyunban ha ue kara pinku no sankaku, kiiro hennakatachi, sorekara ookina pinku no sankaku.

Sat 25/03/06 15:53:37 123jcj -> 127eij
Nishi no houkou de ii desuka?

Sat 25/03/06 15:53:52 127eij -> 123jcj
hai sou desu! kiiro no ha naname ni nagai shikaku desu.

Sat 25/03/06 15:55:06 123jcj -> 127eij
Pink no shita wa?

Sat 25/03/06 15:55:29 127eij -> 123jcj
sono mitsu de minami ni mukatteiru shinkansen no katachi wo tsukutte kudasai. wakaru

Sat 25/03/06 15:56:43 123jcj -> 127eij
Wakaru yo! (Tabun!) Shinkansen no tsugi ha doushitara ii?

Sat 25/03/06 15:56:52 127eij -> 123jcj
sono shita ha ookina aka no sankaku desu. kirei ni awanai ga...

Sat 25/03/06 15:58:08 123jcj -> 127eij
Ookina aka no sankaku ha kita muki de ii?

Sat 25/03/06 15:58:54 127eij -> 123jcj
shinkansen no mae no shita ha aka no ookina sankaku. kono sanaku ni ichi me ha hanbun

Sat 25/03/06 16:00:12 127eij -> 123jcj
aka no sankaku ha yasshiro dattara minami nishi ni mukatteiru. wakaru kana?

F.2.4 J4 with E8

Sat 25/03/06 15:45:12 124jcj -> 128eij
saa koi!!!

Sat 25/03/06 15:46:15 128eij -> 124jcj
saisho ni itibann tiisai pink no sanpakkei wo tyokkaku ga ueni hidari ueni muku you

Sat 25/03/06 15:46:15 124jcj -> 128eij
nani iro wo dou okimasho?

Sat 25/03/06 15:47:14 124jcj -> 128eij
okimasita

Sat 25/03/06 15:47:35 128eij -> 124jcj
pink no itiban tiisai sankakkei wo tyokkaku ga hidari ueni mukuyouni oitekudasai

Sat 25/03/06 15:48:31 128eij -> 124jcj
tugini kiiro no hisigata wo sono pink no nagaimenn to auyouni oite kudasai

Sat 25/03/06 15:50:41 124jcj -> 128eij
pink ha chokkaku ga hidari ue desuyone?

Sat 25/03/06 15:51:22 124jcj -> 128eij
hisigata no nagai houdesuka? mijikaihoudesuka?

Sat 25/03/06 15:51:29 128eij -> 124jcj
hai.
tugini tyuukurai no pink no sankakkei wo kiiro no hishigata no hen ni awasete(migikai

Sat 25/03/06 15:53:09 124jcj -> 128eij
motteru pink ha ookii no to tiisai no nomi desu
ookiihouno pink desuka?

Sat 25/03/06 15:52:38 128eij -> 124jcj
kiiro no hisigata wa nagai hen ga itiban ueno pink no sankakkei no nagai hen to onaji

Sat 25/03/06 15:53:33 128eij -> 124jcj
hai ookii pink desu

Sat 25/03/06 15:54:54 124jcj -> 128eij
ok

Sat 25/03/06 15:55:06 128eij -> 124jcj
tugini iti bann ookii akano nagai hen ga pink no migikai hen no ue hanbun to
auyou ni oite kudasai

Sat 25/03/06 15:55:08 124jcj -> 128eij
tugiha?

Sat 25/03/06 15:56:50 124jcj -> 128eij
aka ha sankakkkei?

Sat 25/03/06 15:57:13 128eij -> 124jcj
tugini itiban ookii midori no sankakkei wo itiban nagai hen ga akai saikakkeino itiba

Sat 25/03/06 15:57:32 128eij -> 124jcj
sumimasen akawa sankakkkei desu

Sat 25/03/06 15:59:13 128eij -> 124jcj
tugini sono midori no sankakkei no
itiban nagai hen no nokori hanbun ni auyouni itiban tiisai ao no sankakkei wo oku(nag
F.3 The monogamous pairs Round 3

F.3.1 J1 with E5

Sat 25/03/06 16:03:52 131jij -> 135ecj
hi no tuita rousoku no katachi desu. ichibabb shita kara haji memasu.

Sat 25/03/06 16:05:09 135ecj -> 131jij
wakarimashita
hajimashouuu

Sat 25/03/06 16:05:18 131jij -> 135ecj
rousoku no ichibann shita ha chiisai pink no sankaku wo gadoga ue ni oku.

Sat 25/03/06 16:06:35 131jij -> 135ecj
pink no migi donari ni chiisai blue no sankaku wo kado ga sessuru youni oite ookina

Sat 25/03/06 16:08:41 135ecj -> 131jij
sankaku wa triangle de suka?

Sat 25/03/06 16:09:11 131jij -> 135ecj
sokono pink no hidari niha ookii aka no sankaku wo chou henn wo tate ni oku. sousurutou

Sat 25/03/06 16:09:40 131jij -> 135ecj
sannkakuhaha triangle desu.

Sat 25/03/06 16:12:26 135ecj -> 131jij
arigatou ne
sorekara ichiban shita no chiisai piniku sankakuwa akai ookina akai no sankaku wa aimasukuta

Sat 25/03/06 16:12:37 131jij -> 135ecj
tugini susumi masu. ookii green no sannkakuhwo maenioita aka to gyaku muki ni oite t

Sat 25/03/06 16:13:54 131jij -> 135ecj
aimasu.

Sat 25/03/06 16:14:02 135ecj -> 131jij
gyaku muki wa wakaranai
gomene

Sat 25/03/06 16:14:45 131jij -> 135ecj
sokono pink no migini blue wo oita?

Sat 25/03/06 16:15:34 131jij -> 135ecj
gyaku ha hantai no houkou ni muku koto desu.

Sat 25/03/06 16:15:30 135ecj -> 131jij
hai kore wa wakarimashita

Sat 25/03/06 16:16:00 135ecj -> 131jij
ookina midori no sankaku wa dokodesuka?

F.3.2  J2 with E6

Sat 25/03/06 15:46:02 132jij -> 136ecj
Junbi dekimashitanode yoroshikuonegaishimasu.

Sat 25/03/06 16:02:52 136ecj -> 132jij
gomen ne demo nihongo ga heta desu. Hazukashi desu

Sat 25/03/06 16:03:20 132jij -> 136ecj
Issyoni gannbarimasyou

Sat 25/03/06 16:03:11 136ecj -> 132jij
Ganbatte kudasai

Sat 25/03/06 16:04:34 132jij -> 136ecj
hajimeni kono katachiwa hino tsuita rousoku ni miemasu.

Sat 25/03/06 16:05:32 132jij -> 136ecj
hino bubunn ga kiro no irobe, heikoushihenkeino katachi woshiteimasu.

Sat 25/03/06 16:03:45 136ecj -> 132jij
Hai so desu

Sat 25/03/06 16:05:36 136ecj -> 132jij
wakaru

Sat 25/03/06 16:07:14 132jij -> 136ecj
mitsuketara tsugini, hikakuteki onaji ookisano midoriirono shikakukeiwo 'hi(fire)noshitani

Sat 25/03/06 16:08:14 132jij -> 136ecj
soshitara 5ko no sannkakukeide 'rousoku' wo tsukurimasyou.

Sat 25/03/06 16:08:49 136ecj -> 132jij
ok desu

Sat 25/03/06 16:09:28 132jij -> 136ecj
mazu chuukuraino saizu(size)no sannkakukei wo mitsuketekudasai.
APPENDIX F. THE MONOGAMOUS PAIRS TRANSCRIPTION

Sat 25/03/06 16:10:25 132jij -> 136ecj
sono 2tsuno sannkakukeiwo hutatsu awa setekudasai, midoriiroga ueni kite akaga shitani

Sat 25/03/06 16:10:40 136ecj -> 132jij
ok kondo?

Sat 25/03/06 16:10:57 132jij -> 136ecj
hi(fire) to onaji katashiwo tsukuttekudasai.

Sat 25/03/06 16:11:39 136ecj -> 132jij
daijoubu desuka? Ochitsuite tsukutte kudasaine

Sat 25/03/06 16:13:52 132jij -> 136ecj
gomen ne demo nihongo wa saino arimasen. tachsan nihongo kotoba wasureta.

Sat 25/03/06 16:14:01 132jij -> 136ecj
soshitara midoriirono sannkakukeino ue ni akamurasakino sannkakukei wo oite kudasai.

Sat 25/03/06 16:16:25 132jij -> 136ecj
daijoubu desu. gannari masyou.
2tsu no ookii triangle wo mitsuketekudasai.
aka to midori no irodesu.

Sat 25/03/06 16:17:37 132jij -> 136ecj
daizoubu desuka?

Sat 25/03/06 16:19:04 136ecj -> 132jij
hai

F.3.3  J3 with E7

Sat 25/03/06 16:02:25 137ece -> 133jie
hello!

Sat 25/03/06 16:03:40 133jie -> 137ece
Hello, are you ready?
Can you find small pink triangle?
Please put it on the bottom.

Sat 25/03/06 16:04:01 137ece -> 133jie
hello?

Sat 25/03/06 16:05:23 133jie -> 137ece
Then, put the same size blue triangle on the right of pink to make bigger triangle!

Sat 25/03/06 16:04:25 137ece -> 133jie
ok! did it.

Sat 25/03/06 16:05:28 137ece -> 133jie
which direction is the triangle pointing? for example if it was an arrow would it be

Sat 25/03/06 16:07:14 133jie -> 137ece
Pink points to north, blue points to west.

Sat 25/03/06 16:06:29 137ece -> 133jie
ok I think I got it. is the new triangle pointing north?

Sat 25/03/06 16:08:11 137ece -> 133jie
ok I got it!

Sat 25/03/06 16:08:57 137ece -> 133jie
What’s next?

Sat 25/03/06 16:09:12 133jie -> 137ece
The new triangle (pink & blue) points south east.
Can you find big red triangle? Please put red on the pink&blue triangle, pointing east.

Sat 25/03/06 16:10:25 137ece -> 133jie
ok I get you! done! what’s next?

Sat 25/03/06 16:11:24 133jie -> 137ece
Put big green triangle on red one, pointing west.

Sat 25/03/06 16:11:56 137ece -> 133jie
Ok - done!

Sat 25/03/06 16:12:59 133jie -> 137ece
Then put middle size pink triangle on the green to make the whole shape into perfect

Sat 25/03/06 16:14:14 137ece -> 133jie
Yep. Done! Perfect (I hope!) Well done. Very clear explanation!

Sat 25/03/06 16:14:59 133jie -> 137ece
Thank you--!! Then, put green square on the top. The square is a bit smaller than the

Sat 25/03/06 16:15:45 137ece -> 133jie
Ok, done. Are you we finished?

Sat 25/03/06 16:16:30 137ece -> 133jie
Is the square at the top centred? or is it aligned to the main shape to the left or to

Sat 25/03/06 16:17:03 133jie -> 137ece
Oh ya, last one! Choose a yellow strange shape square one, long one. This comes on th
F.3.4 J4 with E8

Sat 25/03/06 16:03:22 134jilee -> 138ecee
put the smallest pink triangle on the bottom

Sat 25/03/06 16:03:47 138ecee -> 134jilee
how?

Sat 25/03/06 16:04:15 134jilee -> 138ecee
the way of put it is that the longest one on the bottom

Sat 25/03/06 16:04:45 138ecee -> 134jilee
ok

Sat 25/03/06 16:05:50 134jilee -> 138ecee
next, put the same size blue triangle on the next of the pink
you have to put blue one next to the pink to make a bigger triangle

Sat 25/03/06 16:07:39 134jilee -> 138ecee
assume that you have big pink & blue triangle
grab the red biggest red triangle
put the red one on the next of the pink & blue triangle

Sat 25/03/06 16:07:09 138ecee -> 134jilee
which side of pink? right or left?

Sat 25/03/06 16:07:54 134jilee -> 138ecee
left

Sat 25/03/06 16:09:00 138ecee -> 134jilee
with those 3 triangles you can make one big square?

Sat 25/03/06 16:09:05 134jilee -> 138ecee
sorry you meant blue one? blue one on the right side of the pink
the red one on the left side of the pink & blue triangle

Sat 25/03/06 16:09:50 134jilee -> 138ecee
no
make triangle with pink and blue

Sat 25/03/06 16:10:39 138ecee -> 134jilee
sorry. no square. so now start from right I have blue, pink and red. right?

Sat 25/03/06 16:11:00 134jilee -> 138ecee
and the longest line of the combined triangle is attached to the shortest line of the

Sat 25/03/06 16:12:54 134jilee -> 138ecee
no make bigger triangle with smallest pink and smallest blue
Sat 25/03/06 16:12:00 138ecee -> 134jiee
yeah, I think I've done

Sat 25/03/06 16:14:12 134jiee -> 138ecee
when you put the red one, put the biggest green triangle on the right side of the red

Sat 25/03/06 16:13:52 138ecee -> 134jiee
can you tell me next?

Sat 25/03/06 16:15:08 134jiee -> 138ecee
oh, and basically you can think that we are making the tower-shaped like figure ok?

Sat 25/03/06 16:15:55 134jiee -> 138ecee
put the smallest pink one on the left side of the green

Sat 25/03/06 16:16:58 138ecee -> 134jiee
yeah, done.

Sat 25/03/06 16:16:43 134jiee -> 138ecee
the longest line of the small pink is attached to the short line of the big green line

F.4 The monogamous pairs Round 4

F.4.1 J1 with E5

Sat 25/03/06 16:20:44 145eij -> 141jcj
konnichiwa

Sat 25/03/06 16:21:00 141jcj -> 145eij
junbi ok desu.

Sat 25/03/06 16:21:04 145eij -> 141jcj
hajimeshouka?

Sat 25/03/06 16:21:43 145eij -> 141jcj
fune no katachi o kangaete kudasai

Sat 25/03/06 16:21:58 141jcj -> 145eij
ok.

Sat 25/03/06 16:22:56 145eij -> 141jcj
ue kara hajimemasu...
fune no wings wa

Sat 25/03/06 16:23:37 145eij -> 141jcj
hidari no wing wa ookina midori sankaku desu
kado ha docchi ni muite masuka?
sorekara migi no wing wa
midori no sankaku corner wa migi no akai no sankaku ni muite imasu
gomen ne chotto muzukashii desuyo...
migi no akai sankaku ha dono saizu desuka?
ima kara wakarinashita ka?
o furari no sankaku wa okki saizu desu
wakaranai desu.
migi no aka no wo mou sukosi setumei shite.
fune no karada ni omotekudasai ne
wing ha hidariga midori de migi ga akade kadoha dochiramo migi wo muiteru?
ok migi no akai no sankaku no corner wa midori no sankaku no corner wa aimasu
akai wing to midori wing wa tonari desu
ok. karada ni susunde iidesu.
hidariga midori
karadaha nani iro?
ii ne
F.4.2 J2 with E6
Sat 25/03/06 16:21:23 146eij -> 142jcj
Gomen ne demo nihongo ga HETA DESU. Sono shape wa sailing boat mitai

Sat 25/03/06 16:22:48 146eij -> 142jcj
junn biwa dekimashitaka?

Sat 25/03/06 16:24:01 142jcj -> 146eij
Sono sailing ship wa sail futatsu aru.

Sat 25/03/06 16:23:31 142jcj -> 146eij
hai wakarimashita.

Sat 25/03/06 16:22:07 142jcj -> 146eij
daijoubu desu. zennzenn jouzu desuyo!

Sat 25/03/06 16:25:45 146eij -> 142jcj
1 no sail wa oki midori sannkaukume desu.

Sat 25/03/06 16:24:23 142jcj -> 146eij
hai wakarimashita.

Sat 25/03/06 16:27:54 146eij -> 142jcj
Fune wa saishoni kiro no heikoshihenkei

Sat 25/03/06 16:28:59 146eij -> 142jcj
kiro no yoko ni chisai pinku sannkaku

Sat 25/03/06 16:29:16 146eij -> 142jcj
hai so desu
Sat 25/03/06 16:29:25 142jcj -> 146eij
hai

Sat 25/03/06 16:30:12 146eij -> 142jcj
yoko ni pinku sannkaku was chisai midori sannkaku

Sat 25/03/06 16:30:41 146eij -> 142jcj
arigato, hontoni gomen nasai

Sat 25/03/06 16:31:29 146eij -> 142jcj
kondo wa aou no 4kaku

Sat 25/03/06 16:31:06 142jcj -> 146eij
daijoubu desuyo! ganbarimasyou!

Sat 25/03/06 16:31:35 142jcj -> 146eij
okimashitayo. sno choshide gannbattekudasai

Sat 25/03/06 16:32:19 146eij -> 142jcj
saigo no shape wa chisai pinku no 3kaku

Sat 25/03/06 16:32:16 142jcj -> 146eij
Hai

Sat 25/03/06 16:33:18 142jcj -> 146eij
made it!

Sat 25/03/06 16:33:55 146eij -> 142jcj
omadeto gozaimasu!

F.4.3 J3 with E7

Sat 25/03/06 16:20:30 147eie -> 143jce
Hello!

Sat 25/03/06 16:20:29 143jce -> 147eie
Im ready!!

Sat 25/03/06 16:21:01 147eie -> 143jce
Ok. Overall we are going to make what looks like a sailboat with two sails.

Sat 25/03/06 16:21:14 143jce -> 147eie
OK!

Sat 25/03/06 16:21:32 147eie -> 143jce
It is also like a plate with two triangles sitting on top of it.
Sat 25/03/06 16:22:11 147eie -> 143jce
First of all lets make the plate. (Or the bottom of the boat.) It’s made from five dif

Sat 25/03/06 16:22:40 147eie -> 143jce
Firstly, place a small pink triangle on the bottom left.

Sat 25/03/06 16:22:45 143jce -> 147eie
Ok. So where should I start?

Sat 25/03/06 16:24:03 147eie -> 143jce
It should be pointing north west. To the left of this please place a blue square. It

Sat 25/03/06 16:24:23 143jce -> 147eie
Which way should the triangle point? north, south, east, west, etc.?..?

Sat 25/03/06 16:25:27 147eie -> 143jce
Sorry I made a mistake. Start by putting a small pink triangle on the bottom RIGHT. I

Sat 25/03/06 16:25:55 143jce -> 147eie
I did. We are making the plate from the right, correct?

Sat 25/03/06 16:26:04 147eie -> 143jce
the triangle should point north west.

Sat 25/03/06 16:26:58 147eie -> 143jce
correct, we are making the plate from the right. now to the left of the blue square pl
Sat 25/03/06 16:26:52 143jce -> 147eie
What is the next to blue square?

Sat 25/03/06 16:27:24 143jce -> 147eie
Done!

Sat 25/03/06 16:28:18 147eie -> 143jce
to the left of the green triangle please place a pink triangle which is pointing dow

Sat 25/03/06 16:27:38 143jce -> 147eie
easy-easy-easy-

Sat 25/03/06 16:29:21 143jce -> 147eie
I did! I think I complete the plate, didn’t I?

Sat 25/03/06 16:29:26 147eie -> 143jce
Great! Now we are going to finish the plate by making the left side of it. Please pla

Sat 25/03/06 16:29:42 147eie -> 143jce
I hope so! :)

Sat 25/03/06 16:30:56 147eie -> 143jce
Now we have to place two big triangles on the plate. First place a large green trian

APPENDIX F. THE MONOGAMOUS PAIRS TRANSCRIPTION

Sat 25/03/06 16:31:26 143jce -> 147eie
Ya, I made very long plate.

Sat 25/03/06 16:31:56 147eie -> 143jce
Then right beside the green triangle place a big red triangle also pointing south east.

F.4.4 J4 with E8

Sat 25/03/06 16:21:43 148eie -> 144jce
put the biggest green triangle. the longest line left-up.

Sat 25/03/06 16:22:35 144jce -> 148eie
in total, basically what kind of shape like? square like? or tower shape like?

Sat 25/03/06 16:23:03 144jce -> 148eie
ok give me next

Sat 25/03/06 16:24:32 148eie -> 144jce
put yellow yellow parallelogram under the green triangle. short line atouch to short line

Sat 25/03/06 16:25:24 144jce -> 148eie
cool what's next?

Sat 25/03/06 16:26:24 148eie -> 144jce
put large pink triangle atouch to the yellow one. short line atouch to the long line

Sat 25/03/06 16:28:20 148eie -> 144jce
next is smallest green triangle. atouch to the another short line of pink triangle. long

Sat 25/03/06 16:29:45 144jce -> 148eie
is the pink small one or large one?

Sat 25/03/06 16:29:30 148eie -> 144jce
and then blue square atouch to the short side of green triangle.

Sat 25/03/06 16:31:56 144jce -> 148eie
the right side of the green or on the bottom of the green?

Sat 25/03/06 16:32:01 148eie -> 144jce
pink is large one.
Ok? so far. big green triangle on the top. and under that, from left yellow parallelogram

Sat 25/03/06 16:32:48 148eie -> 144jce
blue square is the right side of green small triangle
Appendix G

The Community Group Transcription

G.1 The community group Round 1

G.1.1 J1 with E5

Sun 05/03/06 14:25:30 11jie -> 15ece
hi

Sun 05/03/06 14:24:54 15ece -> 11jie
hello

Sun 05/03/06 14:25:34 11jie -> 15ece
hi

Sun 05/03/06 14:26:23 15ece -> 11jie
hi

Sun 05/03/06 14:25:52 11jie -> 15ece
hi

Sun 05/03/06 14:27:21 11jie -> 15ece
Id like to explain a figure Ive got

Sun 05/03/06 14:27:47 15ece -> 11jie
ok, go ahead

Sun 05/03/06 14:30:06 11jie -> 15ece
It has got 1 big box adn 2 small boxes. A big one lies on the left hand side and two

Sun 05/03/06 14:31:25 15ece -> 11jie
what colours are they
A big one is divided by two, which means it consists of two triangles. Also the top small box has got 2 triangles.

In the big box, a top triangle has green and the bottoms has red.

ok, that's a good description.

In the top small box, the top triangle has a blue colour and the bottom has a pink colour.

and the bottom small box is green.

ok, what side of the red triangle is on the side, left or right?

On the top of the big box, there is two triangles which have the same size of the triangles.

ok, and what side is blue, and what side is pink?

light green or dark green?

The red is on the left.

The blue is on the right and the pink is on the left.

ok, is the side of the small box half the length of the big box?

ok, nice one

The triangle in the larger box is light green and the other small box has dark green.

yeah, exactly, so small ones have the area of 1/4 of the larger one.

ok, thanks
All the box I meant were square.

Sun 05/03/06 14:41:17 15ece -> 11jie
ok

Sun 05/03/06 14:41:37 15ece -> 11jie
tell me about the pink triangles

G.1.2 J2 with E6

Sun 05/03/06 14:24:47 12jie -> 16ece
how are you?

Sun 05/03/06 14:24:43 16ece -> 12jie
Hello

Sun 05/03/06 14:25:20 12jie -> 16ece
I need 2 pink triangles.

Sun 05/03/06 14:25:28 16ece -> 12jie
Very well, thank you!

Sun 05/03/06 14:26:16 12jie -> 16ece
I ALSO NEED A big green triangle and a big orange triangle.

Sun 05/03/06 14:27:23 12jie -> 16ece
I also need a navy blue triangle. The size of this triangle is the same as the smaller

Sun 05/03/06 14:26:20 16ece -> 12jie
Ok, small or big?

Sun 05/03/06 14:28:43 12jie -> 16ece
Finally i need a green square and a yellow slanted square.
YOU SHOULD GET 7 PIECES NOW.

Sun 05/03/06 14:27:48 16ece -> 12jie
Ok, now I have 1 big green triangle, 1 big orange / red triangle, and 2 small pink triangles.

Sun 05/03/06 14:28:20 16ece -> 12jie
ok

Sun 05/03/06 14:31:08 12jie -> 16ece
OK. 7 PIECES ARE
A BIG GREEN TRIANGLE
A BIG RED/ORANGE TRIANGLE
A MEDIUM Sized PINK TRIANGLE
A SMALL PINK TRIANGLE.
a small navy triangle
SMALL GREEN square
yellow slanted square

Sun 05/03/06 14:29:42 16ece -> 12jie
Ok, I have them.

Sun 05/03/06 14:32:28 12jie -> 16ece
Now we are going to make a house-shaped tangram.
Firstly make a square from 2 big (green and orange) triangles.

Sun 05/03/06 14:33:26 16ece -> 12jie
I have made the square from the green and orange triangles.

Sun 05/03/06 14:36:02 12jie -> 16ece
Step 2: Put a medium pink triangle on the square that you made in step 1.
The long side of the medium pink triangle should be the same length of the short side

Sun 05/03/06 14:39:00 16ece -> 12jie
Ok. It looks like a house with a garage!

Sun 05/03/06 14:41:19 12jie -> 16ece
at last, put a yellow piece so that it touches a navy triangle and a medium pink triangle.
G.1.3  J3 with E7

Sun 05/03/06 14:25:20 13jij -> 17ecj
ookina sankakukeiga hutatu hituyoudesu

Sun 05/03/06 14:25:23 17ecj -> 13jij
konnichiwa!

Sun 05/03/06 14:26:20 13jij -> 17ecj
konnitiwa

Sun 05/03/06 14:26:36 17ecj -> 13jij
ookina sankaku ha nani iro desu ka

Sun 05/03/06 14:26:42 13jij -> 17ecj
ookina sankakukeiga hutatu hituyou desu

Sun 05/03/06 14:26:57 13jij -> 17ecj
midori to aka desu

Sun 05/03/06 14:27:24 13jij -> 17ecj
tiisai kankaku ga hutatu hituyou desu

Sun 05/03/06 14:27:41 13jij -> 17ecj
ao to pinku desu

Sun 05/03/06 14:28:18 13jij -> 17ecj
chuu guraino ookisano sankaku keiga 1tu hituyou desu

Sun 05/03/06 14:28:29 13jij -> 17ecj
pinku desu

Sun 05/03/06 14:28:32 17ecj -> 13jij
hai, tabun ok desu

Sun 05/03/06 14:28:50 13jij -> 17ecj
tiisai kikakuga hitotu desu. midori desu

Sun 05/03/06 14:29:19 13jij -> 17ecj
kiiro no heikousihenkei ga hitotu hituyou desu

Sun 05/03/06 14:29:36 13jij -> 17ecj
zenbude 7ko arimasuka?

Sun 05/03/06 14:31:03 13jij -> 17ecj
zenbu de 7ko arimasuka??

Sun 05/03/06 14:32:36 17ecj -> 13jij
gomen, zenzen dekimasen

Sun 05/03/06 14:32:34 13jij -> 17ecj
mazu ha ookina sankaku 2tu de sikaku wo tukutte kudasai

Sun 05/03/06 14:32:55 13jij -> 17ecj
aka ga sita de, midoriga ue desu

Sun 05/03/06 14:33:08 13jij -> 17ecj
dekimasitaka?

Sun 05/03/06 14:33:38 13jij -> 17ecj
saisho kara yarimasune.

Sun 05/03/06 14:34:14 13jij -> 17ecj
aka to midori no sankaku de sikaku wo tukutte kudasai

Sun 05/03/06 14:34:33 13jij -> 17ecj
akaga sita de midoriga ue desu

Sun 05/03/06 14:34:48 13jij -> 17ecj
tukure masita ka?

Sun 05/03/06 14:35:06 17ecj -> 13jij
transcript yomimasu. muzukashii yo! ue wa shikaku desu ka? midori to aka no shikaku?

Sun 05/03/06 14:35:40 13jij -> 17ecj
gomen nasai!

Sun 05/03/06 14:35:37 17ecj -> 13jij
hai tsukutta

Sun 05/03/06 14:36:30 17ecj -> 13jij
tsugi wo?

Sun 05/03/06 14:36:54 13jij -> 17ecj
aka no ookina sankaku to midori no ookina sankaku arimasuka?

Sun 05/03/06 14:37:28 17ecj -> 13jij
hai!

Sun 05/03/06 14:37:30 13jij -> 17ecj
arigato!

Sun 05/03/06 14:38:11 17ecj -> 13jij
ato de wa nani?
Sun 05/03/06 14:38:13 13jij -> 17ecj
sono nigi ni midori no tiisai sikaku wo oite kudasai.

Sun 05/03/06 14:38:50 17ecj -> 13jij
chiisai shikaku wa doko

Sun 05/03/06 14:39:16 13jij -> 17ecj
tiisai sikaku no ueni pinku no tiisai sankaku wo oite kudasai

Sun 05/03/06 14:39:55 13jij -> 17ecj
sono ueni tiisai ao no tiisai sankaku wo oite kudasai

Sun 05/03/06 14:40:18 17ecj -> 13jij
pink to nani iro?

Sun 05/03/06 14:41:15 13jij -> 17ecj
ookina midori no ue ni pinku no chuugurai no sankaku wo oite kudasai.

Sun 05/03/06 14:41:54 13jij -> 17ecj
tiisai sikaku wa pink to ao desu

G.1.4 J4 with E8

Sun 05/03/06 14:25:20 13jij -> 17ecj
ookina sankakukeiga hutatu hituyoudesu

Sun 05/03/06 14:25:23 17ecj -> 13jij
konnichiwa!

Sun 05/03/06 14:26:20 13jij -> 17ecj
konnitiwa

Sun 05/03/06 14:26:36 17ecj -> 13jij
ookina sankaku ha nani iro desu ka

Sun 05/03/06 14:26:42 13jij -> 17ecj
ookina sankakukeiga hutatu hituyou desu

Sun 05/03/06 14:26:57 13jij -> 17ecj
midori to aka desu

Sun 05/03/06 14:27:24 13jij -> 17ecj
tiisai kankaku ga hutatu hituyou desu

Sun 05/03/06 14:27:41 13jij -> 17ecj
ao to pinku desu
APPENDIX G. THE COMMUNITY GROUP TRANSCRIPTION

Sun 05/03/06 14:28:18 13jij -> 17ecj
chuu guraino ookisano sankaku keiga 1tu hituyou desu

Sun 05/03/06 14:28:29 13jij -> 17ecj
pinku desu

Sun 05/03/06 14:28:32 17ecj -> 13jij
hai, tabun ok desu

Sun 05/03/06 14:28:50 13jij -> 17ecj
tiisai kikakuga hitotu desu. midori desu

Sun 05/03/06 14:29:19 13jij -> 17ecj
kiiro no heikousihenkei ga hitotu hituyou desu

Sun 05/03/06 14:29:36 13jij -> 17ecj
zenbude 7ko arimasuka?

Sun 05/03/06 14:31:03 13jij -> 17ecj
zenbu de 7ko arimasuka??

Sun 05/03/06 14:32:36 17ecj -> 13jij
gomen, zenzen dekimasen

Sun 05/03/06 14:32:34 13jij -> 17ecj
mazu ha ookina sankaku 2tu de sikaku wo tukutte kudasai

Sun 05/03/06 14:32:55 13jij -> 17ecj
aka ga sita de, midoriga ue desu

Sun 05/03/06 14:33:08 13jij -> 17ecj
dekimasitaka?

Sun 05/03/06 14:33:38 13jij -> 17ecj
saisho kara yarimaseune.

Sun 05/03/06 14:34:14 13jij -> 17ecj
aka to midori no sankaku de sikakuwo tukutte kudasai

Sun 05/03/06 14:34:33 13jij -> 17ecj
akaga sita de midoriga ue desu

Sun 05/03/06 14:34:48 13jij -> 17ecj
tukure masita ka?

Sun 05/03/06 14:35:06 17ecj -> 13jij
transcript yomimasu. muzukashii yo! ue wa shikaku desu ka? midori to aka no shikaku?

Sun 05/03/06 14:35:40 13jij -> 17ecj
gomen nasai!
G.2 The community group Round 2

G.2.1 J1 with E8

Sun 05/03/06 14:45:27 28eij -> 21jcj
chiisai pinku no sankaku wa ue no midori ni oite
APPENDIX G. THE COMMUNITY GROUP TRANSCRIPTION

Sun 05/03/06 14:45:24 21jcj -> 28eij
hi

Sun 05/03/06 14:46:16 21jcj -> 28eij
ok,

Sun 05/03/06 14:46:54 28eij -> 21jcj
sonno shita ni kiroi no "onaji nagas x2 to oniji nagasa x2" no katachi

Sun 05/03/06 14:48:29 28eij -> 21jcj
kiroi no katachi no nagai saido wa sankaku no nagai saido wa issho

Sun 05/03/06 14:49:20 28eij -> 21jcj
sono shita ni pinku no sankaku (chiisai ja nai, ookii ja nai)

Sun 05/03/06 14:51:20 21jcj -> 28eij
kiroi no katachi no nagai saido wa dono sankaku no nagasa to onaji desu ka?

Sun 05/03/06 14:50:05 28eij -> 21jcj
ima sono mittsu no katachi wa nagai katachi o tsukutta

Sun 05/03/06 14:50:38 28eij -> 21jcj
sono shita ni akai ookina sankaku

Sun 05/03/06 14:51:43 28eij -> 21jcj
ima ashi ni mieru

Sun 05/03/06 14:52:21 28eij -> 21jcj
manaka no saizu

Sun 05/03/06 14:52:45 28eij -> 21jcj
ma ma chiisai

Sun 05/03/06 14:54:08 28eij -> 21jcj
ima migi no hoo, ookii midori no sankaku - mae no akai sankaku to ima no midori no saizu

Sun 05/03/06 14:55:15 28eij -> 21jcj
kono futatsu no sankaku wa nagai saido wa issho, demo hanbun dake (hanbun shita, hanbun)

Sun 05/03/06 14:56:09 28eij -> 21jcj
mae no akai sankaku no shita ni, chiichai squeaa o oite

Sun 05/03/06 14:57:53 28eij -> 21jcj
kono midori squeaa no migi no hoo - spaasu o -kono spaasu wa midori squeaa no onaji saizu

Sun 05/03/06 14:59:09 28eij -> 21jcj
koko ni koi ao sinkaku (chiichai no) o oite

Sun 05/03/06 15:00:34 21jcj -> 28eij
kiiro no sannkaku hutatu no shitani
pinku oite,
sono shitani ookina midoi to aka no sankaku desuka?

Sun 05/03/06 15:00:14 28eij -> 21jcj
kono aoi no sankaku wa mae no midori no ookina sankaku no hidari shita ni hazu da

Sun 05/03/06 15:00:39 28eij -> 21jcj
daijobu desu ka?

Sun 05/03/06 15:02:10 28eij -> 21jcj
hai

G.2.2  J2 with E5

Sun 05/03/06 14:44:59 25eij -> 22jcj
konichiwa

Sun 05/03/06 14:46:27 25eij -> 22jcj
ichiban okiina sankaku wo midori no shikaku ni oitekudasai

Sun 05/03/06 14:46:34 22jcj -> 25eij
Domodesu

Sun 05/03/06 14:47:39 25eij -> 22jcj
hidarigawa ga ue ni tsuzuiteiru

Sun 05/03/06 14:48:00 22jcj -> 25eij
2 tsu no midori no sankaku kara, shikaku wo tsukuri masita.

Sun 05/03/06 14:50:35 25eij -> 22jcj
ichiban chisai aoi no sankaku wo shikaku no nagasa no ato de oitekudasai

Sun 05/03/06 14:51:28 25eij -> 22jcj
2tsu no sankaku de wa nai. futsu no shikaku desu

Sun 05/03/06 14:53:03 22jcj -> 25eij
"Aoi" ha, "usui midori" desuka?

Sun 05/03/06 14:53:43 25eij -> 22jcj
de, kono akai san kaku no saka michi wo hantai ni onaji okisa no san kaku wo oite kurasu

Sun 05/03/06 14:54:44 25eij -> 22jcj
nipppon no sakka chimu to issho, usui de wa nai

Sun 05/03/06 14:57:04 25eij -> 22jcj
de kono aoi san kaku ha sono midori sankaku no shita. aoi sankaku kara, midori shikaku
G.2.3 J3 with E6

Hello!

You need 7 pieces.
They are:
- 1 small pink triangle
- 1 medium pink triangle
- 1 big red triangle
- 1 big green triangle
- 1 small green square
- 1 small blue triangle

And 1 yellow rhombus (slanted square)

The first part looks like an arrow pointing down. Put the small pink triangle at the top, with the long side to the right.
Next, put the yellow rhombus under the small pink triangle. One of the short sides of

hold on the computer was down for a while, give me some time.

ok. and?

Now, put the big pink triangle under the yellow rhombus. The long side should face ri

OK!

Put the big red triangle under the medium pink triangle. The long side of the red triangle should touch one of the short sides of the pink tri

ok. i don’t think i’m doing right, but just go on

Yes, this one is difficult!

Put the big green triangle next to the red triangle. One short side of the green tri

Last, put the small blue triangle under the green triangle. It’s in line with the bottom of the small green square.

G.2.4  J4 with E7

Put the green square under the red triangle, on the left hand side.
Sun 05/03/06 14:48:32 24jcc -> 27eie yah so the yellow rectangle is on the right hand side of the pink triangle right?

Sun 05/03/06 14:48:56 27eie -> 24jcc next there is a middle size pink triangle. put this below the yellow rectangle.

Sun 05/03/06 14:49:35 27eie -> 24jcc yes you are correct so far. we should have a pink triangle then a yellow rectangle then a pink triangle in a kind of tower shape

Sun 05/03/06 14:50:45 27eie -> 24jcc next we need a big red triangle. the red triangle should have its corner at the bottom.

Sun 05/03/06 14:51:23 27eie -> 24jcc
ok?

Sun 05/03/06 14:51:34 24jcc -> 27eie wait a min where is the middle side pink triangle should go? bottom of the yellow rectangle?

Sun 05/03/06 14:51:52 27eie -> 24jcc next we need a middle sized green square.

Sun 05/03/06 14:52:33 24jcc -> 27eie yah actually i got you.

Sun 05/03/06 14:52:43 24jcc -> 27eie yah the middle pink triangle should go on the bottom side of the yellow rectangle

Sun 05/03/06 14:53:01 24jcc -> 27eie yah

Sun 05/03/06 14:53:13 27eie -> 24jcc are you ok with the red triangle too?

Sun 05/03/06 14:53:55 24jcc -> 27eie yah i think so. its on the bottom of the pink triangle. and also touching the bottom

Sun 05/03/06 14:54:06 27eie -> 24jcc the green square will go below the red triangle.

Sun 05/03/06 14:54:45 24jcc -> 27eie but i thought the bottom of the red one is the corner of it. how does it go??

Sun 05/03/06 14:55:17 27eie -> 24jcc yes. the shape is like a ruler: pink triangle on top then yellow rectangle then pink

Sun 05/03/06 14:56:23 27eie -> 24jcc the red triangle is below the last pink triangle

Sun 05/03/06 14:57:12 27eie -> 24jcc
we also need a big green triangle and a small blue triangle

Sun 05/03/06 14:58:14 27eie -> 24jcc
half of the red triangle’s long edge is touching the pink triangle.

Sun 05/03/06 14:59:02 27eie -> 24jcc
now we get teh big green triangle and put its long edge against the other half of the

Sun 05/03/06 14:59:37 27eie -> 24jcc
ok?

Sun 05/03/06 15:00:44 24jcc -> 27eie
so the green one is on the top of the red triangle, is it?

Sun 05/03/06 15:00:52 27eie -> 24jcc
the small blue triangle should touch the green triangle’s longest side too

Sun 05/03/06 15:01:45 27eie -> 24jcc
yes, the green one is on top - if you can think of a red and green square and then sl

Sun 05/03/06 15:02:36 27eie -> 24jcc
the top point of the blue triangle should be touching the point of the red triangle

G.3 The community group Round 3

G.3.1 J1 with E7

Sun 05/03/06 15:06:49 37ece -> 31jie
let’s go!

Sun 05/03/06 15:06:56 31jie -> 37ece
hi

Sun 05/03/06 15:07:38 31jie -> 37ece
I’ll explain the figure from the bottom, ok?

Sun 05/03/06 15:07:49 37ece -> 31jie
ok

Sun 05/03/06 15:08:35 31jie -> 37ece
put the smallest size of pink rectangular on the bottom

Sun 05/03/06 15:10:15 31jie -> 37ece
and you put the blue one on the right side of the pink

Sun 05/03/06 15:09:18 37ece -> 31jie
APPENDIX G. THE COMMUNITY GROUP TRANSCRIPTION

ok - is it like a backslash or a forward slash??

Sun 05/03/06 15:11:04 31jie -> 37ece
the longest is on the bottom

Sun 05/03/06 15:10:37 37ece -> 31jie
blue triangle or square or rectangle?

Sun 05/03/06 15:11:31 31jie -> 37ece
blue rectangle

Sun 05/03/06 15:11:36 37ece -> 31jie
longest what?

Sun 05/03/06 15:12:42 31jie -> 37ece
so those two can make a medium size of rectangle and that will be a back-slash

Sun 05/03/06 15:13:11 37ece -> 31jie
ok. done it

Sun 05/03/06 15:13:56 31jie -> 37ece
i really don know how to explain this but triangles are made up by 3 bonds and rectangles

Sun 05/03/06 15:15:00 37ece -> 31jie
ok. bonds = sides?, how many triangles do i need. what colours?

Sun 05/03/06 15:16:21 31jie -> 37ece
then you put the largest red rectangle on the small two you made up.

Sun 05/03/06 15:17:30 31jie -> 37ece
yeah! thats right. you put the longest bond on the bottom

Sun 05/03/06 15:18:15 37ece -> 31jie
i only have a pink and blue rectangle = one big rectangle. i have nothing else

Sun 05/03/06 15:18:31 31jie -> 37ece
i'll explain from the beginning ok?

Sun 05/03/06 15:19:28 31jie -> 37ece
yeah, and you put the largest red rectangle on the top of the pink-blue rectangles

Sun 05/03/06 15:19:49 37ece -> 31jie
ok
Sun 05/03/06 15:20:47 37ece -> 31jie
ok, i have a red rectangle on top
G.3.2 J2 with E6

Sun 05/03/06 15:07:04 32jie -> 38ece
hi.

Sun 05/03/06 15:07:02 38ece -> 32jie
hello!

Sun 05/03/06 15:07:32 32jie -> 38ece
YOU ARE GOING TO MAKE A "LIT CANDLE" SHAPED TANGRAM.

Sun 05/03/06 15:07:47 38ece -> 32jie
ok!

Sun 05/03/06 15:09:22 32jie -> 38ece
YOU NEED 7 PIECES.
A SMALL PINK TRIANGLE
A SMALL BLUE TRIANGLE
A BIG RED TRIANGLE
A BIG BRIGHT GREEN TRIANGLE.
A MEDIUM PINK TRIANGLE
A MEDIUM DARK GREEN SQUARE
A YELLOW SLANTED SQUARE

Sun 05/03/06 15:10:32 38ece -> 32jie
ok

Sun 05/03/06 15:12:39 32jie -> 38ece
STEP1
PLACE A SMALL PINK TRIANGLE. ITS LONG SIDE IS THE BOTTOM OF THE CANDLE.

Sun 05/03/06 15:13:35 38ece -> 32jie
ok

Sun 05/03/06 15:14:11 32jie -> 38ece
STEP3
TAKE A BIG RED TRIANGLE. PLACE IT ON THE TRIANGLE WHICH IS MADE UP FROM 2 (BLUE AND PINK)

Sun 05/03/06 15:14:33 38ece -> 32jie
ok

Sun 05/03/06 15:15:21 32jie -> 38ece
step 4
take a big green triangle. put it on the shape you created in step3 so that the long

Sun 05/03/06 15:15:47 38ece -> 32jie
done
APPENDIX G. THE COMMUNITY GROUP TRANSCRIPTION

Sun 05/03/06 15:16:54 32jie -> 38ece
step 5
take a meddium pink triangle. put it on the shape you created in the step 4 so that one
Sun 05/03/06 15:17:40 38ece -> 32jie
ok
Sun 05/03/06 15:18:28 32jie -> 38ece
step6
take a dark green square. put it on the shape you created in step5.
the bottom side of the green square should be on the top of the candle.
I know the leength doesn’t match. Just centre-align the green square.
Sun 05/03/06 15:19:00 38ece -> 32jie
ok
Sun 05/03/06 15:19:20 32jie -> 38ece
last step
put a yellow piece on top of the green square so that the yellow shape looks a fire.
Sun 05/03/06 15:19:40 38ece -> 32jie
excellent!
Sun 05/03/06 15:20:48 32jie -> 38ece
one angle of the yellow shape shoud touch the top side of the green square. the touch
Sun 05/03/06 15:20:09 38ece -> 32jie
that’s finished right?

G.3.3 J3 with E5

Sun 05/03/06 15:05:33 35eij -> 33jcj
konichiwa
Sun 05/03/06 15:06:39 35eij -> 33jcj
konichiwa
Sun 05/03/06 15:07:06 33jcj -> 35eij
konnichiwa. douzo.
Sun 05/03/06 15:07:45 35eij -> 33jcj
kono katachi ha tooi kara romaji no i mitai desu
Sun 05/03/06 15:08:33 33jcj -> 35eij
i desu ne. wakarimasita.
ichiban ue no ten ha kiroi no okashii katachi desu. okashii toiu no ha sankaku, shikaku
de, ichiban shita kara, chiban chisaina pinku sankaku no ichiban nagai gawa ga arimasu
de, hidari gawa kara, ichban okiina akai sankaku ga arimasu
hai wakarimasita. tugi wa?
migigawa ha kurai no aoi sankaku ga arimasu
hai. sorede?
akai san kaku no ue ni onaji okisa no midori sankaku ga arimasu. usi iro de ha naides
3tu no sankakude ookina sikaku ga dekimasita. iidesuka?
midori sankaku no ue ni, mannaka no okisa no pinku sankaku ga arimasu
hai.
chotto machigatimasu.
pinku no sankaku to midiri no sankaku wa onaji ookisa desuka?
2tsu no pinku sankaku no aida ni nagai shikaku mitaina katachi ga arimasu
pinku no ha midori no yori chisai desu keredomo aoi yori okii desu
e? dameda. tabun matigatta.
G.3.4 J4 with E6

Sun 05/03/06 15:06:51 34jcj -> 36eij
hi

Sun 05/03/06 15:07:17 34jcj -> 36eij
dono kami ga hituyou ka zenbu oshiete moraemasuka??

Sun 05/03/06 15:07:32 36eij -> 34jcj
Konnichiwa. Nihongo wa skoshi, gomen nasai! Hajimemasho ka?

Sun 05/03/06 15:08:20 34jcj -> 36eij
hi

Sun 05/03/06 15:10:16 36eij -> 34jcj
hai. 7 kami ga arimasu.
oki no aka no sankaku
oki no midori no sankaku
chisai no pinku no sankaku
chisai no aoi no sankaku
chu no pinku no sankaku
midori no (haku? - moji shiranai!!)
chairo no (sankaku/haku mono!!)

Sun 05/03/06 15:11:43 34jcj -> 36eij
wakarimashita

Sun 05/03/06 15:12:26 36eij -> 34jcj
Zenbu wa "kyanderu" mitai.
1. Chisai no pinku no sankaku ga arimasu.

Sun 05/03/06 15:13:52 34jcj -> 36eij
hai

Sun 05/03/06 15:14:01 36eij -> 34jcj
2. Ue ni, aoi no sankaku ga arimasu.
(isho ni, chu no sankaku mitai)

Sun 05/03/06 15:14:52 36eij -> 34jcj
Ue ni (hidari no gawa desu), aka no sankaku ga arimasu.

Sun 05/03/06 15:19:13 34jcj -> 36eij
tugiha??

Sun 05/03/06 15:19:27 36eij -> 34jcj
3. Ue ni, midori no sankaku ga arimasu.
4. Ue ni (hidari kawa desu), chu no pinku no sankaku ga arimasu.
5. Ima, zenbu takai no haku mitai.
6. Soshite, ue ni midori no haka ga arimasu (chisai no haku desu).

Sun 05/03/06 15:20:58 34jcj -> 36eij
midori ha dono ue desuka? dotira gawa? migi hidari?

Sun 05/03/06 15:21:19 36eij -> 34jcj
7. Saigo desu! Ue ni, chaiiro no mono desu. Ka mitai.

G.4 The community group Round 4

G.4.1 J1 with E6

Sun 05/03/06 15:23:18 46eij -> 41jcj
Konnichiwa! Hajimemasho ka?

Sun 05/03/06 15:23:38 41jcj -> 46eij
hai, yoroshiku onegai shimasu

Sun 05/03/06 15:25:33 46eij -> 41jcj
Dozo yoroshiku onegai shimasu!
7 kama ga arimasu.
Midori no sankaku (okii)
Midori no sankaku (chisai)
Aka no sankaku (okii)
Pinku no sankaku (chisai)
Pinku no sankaku (chu)
Aoi no "haku" (gomen-moji shiranai!)
Chaiiro no (haku/sankaku mono!)

Sun 05/03/06 15:28:50 41jcj -> 46eij
aoi no ha shikau desuka?
chaiiro noha haku to sankaku ryouhou desuka?

Sun 05/03/06 15:32:13 46eij -> 41jcj
Arigatou, so desu! Aoi no shikau wa chisai.
OK. Zenbu wa "ship" mitai.
1. Ue ni, okii no sankaku ga arimasu (midori to aka).

Sun 05/03/06 15:34:11 41jcj -> 46eij
hai, okii aka to midori donoyouni okimasu ka?

Sun 05/03/06 15:35:27 46eij -> 41jcj
Futatsu wa, nagai gawa wa hidari gawa desu.

Sun 05/03/06 15:36:05 41jcj -> 46eij
wakarimashita!

Sun 05/03/06 15:37:33 46eij -> 41jcj
Shita ni, chairo no ryouhou ga arimasu. Chu no pinku no sankaku wa tonari desu. Nagai

Sun 05/03/06 15:36:29 41jcj -> 46eij
nokorino 5 tu mo oshiete kuda sai

G.4.2 J2 with E7

Sun 05/03/06 15:22:57 47eij -> 42jcj
gambarimashou!

Sun 05/03/06 15:23:45 42jcj -> 47eij
yoroshiku desu

Sun 05/03/06 15:24:51 47eij -> 42jcj
saishou de listo desu:
1 ookina midori sankaku
1 ookina akai sankaku
1 chuugaku pink sankaku
1 chiisai pink sankaku
i ao shikaku
1 kiiro shikaku
1 kiiro rectanguru

Sun 05/03/06 15:25:52 47eij -> 42jcj
ok desu ka

Sun 05/03/06 15:26:31 47eij -> 42jcj
shita no migi gawa kara.

Sun 05/03/06 15:27:29 47eij -> 42jcj
chiisai pink sankaku

Sun 05/03/06 15:28:42 42jcj -> 47eij
Hai
Kakunin desu/
"Kiiro shikaku" wa nanai no yatsu?
Soretomo, seihou kei (massugu no yatsu)?

Sun 05/03/06 15:28:23 47eij -> 42jcj
chiisai pink sankaku no hidari ha ao shikaku ga arimasu

Sun 05/03/06 15:29:04 47eij -> 42jcj
aosi shikaku no hidari wa chiisai midori no sankaku

Sun 05/03/06 15:29:46 42jcj -> 47eij
>>chiisai pink sankaku no hidari ha aoi shikaku ga arimasu
Koko made OK

Sun 05/03/06 15:30:01 47eij -> 42jcj
kiiroi rectanguru wa 1 irimasu

Sun 05/03/06 15:31:36 42jcj -> 47eij
OK

Sun 05/03/06 15:31:07 47eij -> 42jcj
pink sankaku to aoi shikaku to midori sankaku ishoni wa ooki rectanguru desu

Sun 05/03/06 15:31:38 47eij -> 42jcj
ok desu ka

Sun 05/03/06 15:32:52 47eij -> 42jcj
ja, tsugi. chuu size no pink sankaku to chiisai midori sankaku ha isho

Sun 05/03/06 15:33:48 47eij -> 42jcj
sorede, chuu pink sankaku no hidari wa kiiro rectanguru

Sun 05/03/06 15:34:11 42jcj -> 47eij
hai. botome wa, midori sankaku no mijikai sen to, aoi sinkaku no 1 tu no sen?

Sun 05/03/06 15:34:19 47eij -> 42jcj
chotto fune mittemasu

Sun 05/03/06 15:35:17 42jcj -> 47eij
hai, yokoni nagai katachi ga dekite imasu.

Sun 05/03/06 15:36:47 47eij -> 42jcj
botome wa (migi kara) chiisai pink sankaku. tsugi (hidari gawa) wa aosi shikaku to mi

Sun 05/03/06 15:37:23 47eij -> 42jcj
ok, desu. ja, ue wa ookina midori sankaku to akai sankaku.

Sun 05/03/06 15:36:33 42jcj -> 47eij
>chotto fune mittemasu
OK

G.4.3  J3 with E8

Sun 05/03/06 15:23:18 48ece -> 43jie
hello!
Sun 05/03/06 15:24:00 43jie -> 48ece
hello.

Sun 05/03/06 15:24:24 43jie -> 48ece
it should look like a boat at the end arlight?

Sun 05/03/06 15:24:41 48ece -> 43jie
ok

Sun 05/03/06 15:26:03 43jie -> 48ece
you need7 pieces.
1. big green triangle
2. big red triangle
3. small pink triangle
4. small blue squre
5. small green triangle
6. middle size pink triangle
7. and finally yellow funny shape

Sun 05/03/06 15:26:29 43jie -> 48ece
tell me when you are ready!

Sun 05/03/06 15:27:02 48ece -> 43jie
ok i have those

Sun 05/03/06 15:27:52 43jie -> 48ece
leave the big triangles for now.
let's start with the small blue squre!

Sun 05/03/06 15:29:02 48ece -> 43jie
yes?

Sun 05/03/06 15:29:11 43jie -> 48ece
to the right, place the small pink triangle. the long side of it should face right and

Sun 05/03/06 15:29:53 48ece -> 43jie
ok

Sun 05/03/06 15:30:35 43jie -> 48ece
place the small green triangle at the other side of the small blue squre. long side

Sun 05/03/06 15:30:58 48ece -> 43jie
ok

Sun 05/03/06 15:32:14 43jie -> 48ece
now place the middle size pink triangle next to the small green triangle. long side of

Sun 05/03/06 15:33:20 48ece -> 43jie
yes
Sun 05/03/06 15:33:10 43jie -> 48ece
the pink triangle should point downwards. ok?

Sun 05/03/06 15:34:07 48ece -> 43jie
ok

Sun 05/03/06 15:34:29 43jie -> 48ece
then place the yellow one next to the pink triangle. now it should look like a boat.

Sun 05/03/06 15:35:09 48ece -> 43jie
yes

Sun 05/03/06 15:35:45 43jie -> 48ece
place the big green triangle on the top of the yellow one and the middle size pink tri

Sun 05/03/06 15:36:31 48ece -> 43jie
ok

Sun 05/03/06 15:36:50 43jie -> 48ece
place the FINAL piece, the red triangle next to the big green triangle. same way as b

G.4.4 J4 with E5

Sun 05/03/06 15:23:11 44jie -> 45ece
hi

Sun 05/03/06 15:23:37 45ece -> 44jie
hi

Sun 05/03/06 15:23:53 44jie -> 45ece
hi

Sun 05/03/06 15:24:23 44jie -> 45ece
lets start..
ok we need 7 papers.

Sun 05/03/06 15:24:14 45ece -> 44jie
hi

Sun 05/03/06 15:25:03 45ece -> 44jie
ok

Sun 05/03/06 15:25:34 44jie -> 45ece
one big light green triangle
one big red triangle
one middle pink triangle
one small pink triangle
one small dark green triangle
one small blue square
one yellow rectangle

Sun 05/03/06 15:26:50 45ece -> 44jie
ok

Sun 05/03/06 15:25:48 44jie -> 45ece
ok?

Sun 05/03/06 15:26:17 44jie -> 45ece
the final picture should look like a yacht.

Sun 05/03/06 15:26:56 44jie -> 45ece
using a small pink triangle, put the corner of it on the top left.

Sun 05/03/06 15:27:17 44jie -> 45ece
on the left, put the blue square

Sun 05/03/06 15:27:22 45ece -> 44jie
ok

Sun 05/03/06 15:28:10 44jie -> 45ece
then the small green triangle on the left of it. the corner is at the right bottom. so

Sun 05/03/06 15:28:35 45ece -> 44jie
ok

Sun 05/03/06 15:30:00 44jie -> 45ece
now we need a middle side pink triangle on the left. the longest side of the small green

Sun 05/03/06 15:30:23 44jie -> 45ece
the corner of the pink triangle is at the bottom

Sun 05/03/06 15:32:08 45ece -> 44jie
ok

Sun 05/03/06 15:31:14 44jie -> 45ece
on the left side of it, the yellow rectangle is touching. the shorter side of pink wi

Sun 05/03/06 15:31:27 44jie -> 45ece
is it clear up to here?

Sun 05/03/06 15:32:21 44jie -> 45ece
now the total picture looks like a bottom part of the yacht.

Sun 05/03/06 15:32:51 44jie -> 45ece
we have two big triangles left, in green and red.
APPENDIX G. THE COMMUNITY GROUP TRANSCRIPTION

Sun 05/03/06 15:33:23 45ece -> 44jie
ok

Sun 05/03/06 15:34:01 44jie -> 45ece
the green one is on the left. the shorter side of the triangle is on the bottom, touch

Sun 05/03/06 15:34:18 44jie -> 45ece
the corner of t should be on the right bottom.

Sun 05/03/06 15:34:44 45ece -> 44jie
is this the bottom of the boat?

Sun 05/03/06 15:34:58 44jie -> 45ece
finally the red big triangle! the corner of it is at the right bottom like the big gr

Sun 05/03/06 15:35:02 45ece -> 44jie
i dont think its clear....

Sun 05/03/06 15:35:48 44jie -> 45ece
the first part was for the bottom of the boat. two big trianles are for the upper par

Sun 05/03/06 15:36:07 45ece -> 44jie
ok, is it very long

Sun 05/03/06 15:36:19 45ece -> 44jie
yes

Sun 05/03/06 15:36:31 45ece -> 44jie
ok

Sun 05/03/06 15:38:31 45ece -> 44jie
ok