<Topic area: Semantics, Pragmatics, Spoken Discourse>
Deictic Expressions and Discourse Segment
in English and Japanese Task-Oriented Dialogue

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1 Introduction

This paper has three aims: (1) to provide a pragmatic perspective in a contrastive study of deictic expression in English and Japanese spontaneous dialogue, (2) to suggest the implications for both GHZ (1993)'s Givenness Hierarchy model and Centreing model of discourse reference, based on a preliminary study of a task–oriented speech, and then (3) to predict the way deictic elements can contribute to discourse organisation in structuring and focusing the specific discourse segment.

After giving some information about data of English and Japanese dialogue corpus in section 2, I first give the background assumptions on English and Japanese deictic expressions with some evidence from English and Japanese dialogue in section 3. In Section 4, I present the distribution of deictic expressions and discuss how the Givenness Hierarchy can contribute to the distribution and its pragmatic interpretation. Section 5 presents the results of a preliminary analysis on the correlations between deictic expression and centre transition in Centreing framework. Finally, I present general hypotheses that suggest ways in which the choice and distribution of demonstratives of English and Japanese counterparts can be explained in an interactive discourse model in section 6.

2 English and Japanese Parallel Corpus
2.1 English labelless Map Task Corpus

For the present study, I selected individually collected eight English dialogues based on maps that did not have written labels to identify the landmarks. This is a small set of data experimentally collected after completing the original Map Task Corpus (MTC) compiled by Human Communication Research Centre (HCRC), Edinburgh, UK. One of the predictions is that the speakers in labelless MTC, especially, the giver, tend to use deictic pointers more frequently in describing the landmarks and explaining the routes between landmarks than in the labelled MTC. Therefore, the labelless MTC is relevant data in the sense that the lack of written labels on the maps encourages the participants to construct their own expressions to identify entities of landmarks and to employ a number of deictic expressions than the map of 'ready-made' written labels (Deverell:1994: 22).

2.2 Japanese labelless Map Task Corpus

The Japanese MTC has been conducted as a project at Chiba University (henceforth Chiba Corpus), Japan, since 1993, based on the Edinburgh MTC with respect to map and route designs and situational parameters such as familiarity and eye contact. (see Anderson et al.1991) As in the HCRC study, 128 dialogues have been collected. Following the specification and transcription policy of Chiba Corpus, the small data of 8 dialogues based on Japanese labelless MTC have been collected at Mie University, Japan. using the same labelless maps as MTC and the same experimental design: familiar and unfamiliar pair, each participant plays a role as giver twice on the

same map with different followers, and then as follower twice with different givers and different maps. In Japanese data, I also predict that there are a number of deictic expressions that may be considered parallel in discourse function to the one I assume in English labelless MTC.

3. Features of deictic expressions in English and Japanese: Overview
    Deixis, in a broad sense, is potentially a context-dependent linguistic expression, typically anchoring in the perspective of the speaker. Fillmore (1982: 35) defined deixis as 'the name given to uses of items and categories of lexicon and grammar that are controlled by certain details of the interactional situation in which the utterances are produced'. Deixis includes extended use of linguistic categories such as spatio-temporal locating adverbials, demonstratives, tense, and social deictic terms.   Significantly, deictic expressions are discussed as crucial discourse-grammatical markers that exhibit deictic features as one of the most basic functions of human communications. This view may lead to the hypothesis that the pragmatic properties of demonstratives may be extended from the distinctive proximal-distal dimension to the speaker-addressee dimension, that is, 'interactional', especially in dialogic discourse rather than narratives or monologic speech. (see Cheshire 1996) Furthermore, the research based on the cross-linguistic/contrastive studies in deictic expression in discourse may provide us with ample evidence from various languages regarding the questions such as 'which uses of demonstratives may be universal?' and 'which are language specific?' (Himmelman 1996; Takubo-Kinsui 1990; Cornish 1996, 1999; Valluduvi and Engdahl 1996; and Diessel 1997, 1999).
    For my present purpose three aspects of deictic expression are considered: spatial deixis, anaphoric demonstratives, and discourse deixis in English and Japanese. The reason I choose these to focus on is to demonstrate that the actual use of these categories is interactively related in discourse processing of dialogue. Although each deictic system of English and Japanese is different in linguistic form and function, there may be a pragmatically significant parallelism on the correlation between the choice of deictic expressions and the discourse segment.

4 Distribution of deictic expressions: a preliminary analysis
   The Japanese and English labelless MTC contains a number of deictic expressions that are employed to refer to various discourse entities. I wish to concentrate my attention on those deictic expressions that are used to refer to the landmarks on the maps and their notable patterns of distribution in relation with discourse factors.

4.1 Japanese MTC
    Table 1 and 2 shows the distribution of deictic expressions in Japanese MTC based on the same map and the same giver, but in first session as the giver (Table 1) and in the second session as the giver (Table 2) each time with different followers.

Japanese MTC.ab	Spatial Deixis	Anaphoric Demonstratives		Discourse Deixis	TOTAL
		Adnominal	Pronoun		
PROX				1	1
MEDIAL	6	17	1	2	26
DISTAL					

TOTAL	6	17	1	3	27

Table 1: The distribution of Deictic expressions in Japanese MTC. ab.

Japanese MTC.ac	Spatial Deixis	Anaphoric Demonstratives		Discourse Deixis	TOTAL
		Adnominal	Pronoun		
PROX		1			1
MEDIAL	13	9	1	1	24
DISTAL					
TOTAL	13	10	1	1	25

Table 2: The distribution of Deictic expressions in Japanese MTC. ac.

Both Table 1 and 2 show that the major type of demonstratives in Japanese dialogue is the anaphoric use of Medial *so*-series. There is only one occurrence of Proximal deixis in each turn of the giver, but none as a Distal use in both turns. Among the Medial use, in the 1st turn, adnominal demonstratives *sono* NP are most frequently chosen (17 times), but demonstrative pronoun *sore* is only used once as anaphoric use and twice as discourse deixis. In the 2nd turn, on the other hand, the number of *sono* NP is reduced (9 times), but the occurrence of spatial deixis is twice as frequent (13 times) as in the 1st turn (6 times). With the limited amount of data, no reliable difference has not been discussed in the distribution of deictic expressions between the giver's first and second sessions. However, this may be a possible factors in the future course of study, because higher occurrence of *sono* NP in the 1st session can be related with the Givenness Hierarchy (henceforth GH; see 4.3)'s implication that adnominal demonstratives require at least activated. That is, in the giver's first search of common objects on each map, *sono* NP tends to reflect one of the devices called 'immediate anaphor' by Lichtenberk 1996 quoted in Himmelmann 1996), which is an immediately subsequent reference after the first mention of an entity and is realized in the process of establishing an entity in the discourse. In his or her second turn, on the other hand, the giver's labor in describing and identifying a certain object and route across a map become little. Thus, the finding of the reduced number of adnominal demonstratives with practice may suggest that practice at a task result in more controlled and centre-oriented treatment of entities, 'due to lower conceptual planning demands' (cf. Branigan, Lickley and McKelvie:1999) Furthermore, the limited use of the Medial demonstrative pronoun *sore* may mean that the speaker avoid putting the hearer to some unjustifiable effort in retrieving the plausible referent. This is because Medial adnominal demonstrative *sono* N is less accessible, but contains more lexical information than pronoun *sore*, though both forms would be appropriate only if the referent is currently activated. In section 5.1 we will see the evidence that *sono* N can be more appropriate when its entity is both familiar and activated. In addition, I will argue that demonstratives not necessarily refer to less salient referent. Japanese Medial demonstratives, especially, contribute to discourse coherence despite their lower ranking of transition. This is also suggested by the example of 'focus-shift' proposed by GHZ (1993:298).

(1)
a. Toori e dete shibaraku hashitteku
    street to go out for sometime run
    'He goes out onto the street and runs for some time.'
b. To nanka   yatai mitaina omise ga atte.

and something stall seem   shop   NOM be
'There is a shop like a stall.'
c.   KARE wa sono omise no   toko e   itte.
    He   TOP that shop GEN place to goes
    'He goes to that shop'

This example shows that overt 3rd person pronoun KARE ('HE'), which is predicted to behave like demonstratives, with topic marker *ha* typically implicates that the referent is not in focus, i.e. it implicates a focus-shift. Also note that *sono* N can tend to occur as what Lichtenbark calls 'immediate anaphor after first mention', as in *that shop* referring to *a shop like a stall*. Here possible replacement of bare NP *omise* is rather ambiguous because the first mentioned NP is not semantically explicit and Medial pronoun *sore*/locative *soko* can be a possible candidate as the subsequent mention.

4.2 English MTC
        Table 3 and 4 shows the distribution of deictic expressions in English MTC based on the same map and the same giver, but in first session as the giver (Table 3) and in the second session as the giver (Table 4) each time with different followers.

English MTC Lleq4c1	Spatial Deixis	Anaphoric Demonstratives		Discourse Deixis	TOTAL
		Adnominal	Pronoun		
PROX		1			1
DISTAL	7	6	13	5	31
TOTAL	7	7	13	5	32

Table 3: The distribution of Deictic expressions in English MTC.Lleq4c2.

English MTC Lleq4c8	Spatial Deixis	Anaphoric Demonstratives		Discourse Deixis	TOTAL
		Adnominal	Pronoun		
PROX	2				2
DISTAL	4	1	11	1	17
TOTAL	6	1	11	1	19

Table 4: The distribution of Deictic expressions in English MTC. Lleq4c8.

Maybe one of the interesting parallelism I find between English and Japanese is that, in the 1st turn, adnominal demonstratives are used 6 times as Distal and once as Proximal, but in the second turn, their occurrence are reduced to only once used as Distal adnominal demonstratives. In English, Distal demonstrative pronouns are much more frequently used across the task than those in Japanese. Since I have not counted any full nouns and zero pronouns in Japanese, overall distribution and thorough discussion on the contrast between the two languages lies in the further research. Only the suggestion will be that in Japanese, adnominal demonstratives tend to be used either for immediate anaphora (topic-candidate) or anaphora referring to non-centre referent (topic-shift), whereas in English, Distal pronominal demonstratives are unmarked choice of referring an entity as non-centre referent in activated status, and adnominal use is rather marked because it requires familiar reading. Let us consider several problems on distribution regarding the matching between the forms of referring expression and their relevant cognitive statuses in the following section.

4.3 Givenness Hierarchy

　　　　Based on Prince's (1981) familiarity scale, a series of studies by Gundel, Hedberg, and Zacharski (1988, 1989, 1990, 1993) successfully define the cognitive status of referring expressions in the framework called the Givenness Hierarchy (GH). They claim that different determiners and pronominal forms conventionally signal a different cognitive status, thereby enabling the addressee to restrict the set of possible referents (274), which is represented below in English and Japanese:

```
          in                              uniquely            type
          focus  > activated   > familiar > identifiable >   referential   >   identifiable
                           ⎡that ⎤
English   {it}    ⎨this ⎬    {that N}    {the N}       {indefinite this N}    {a N}
                           ⎣this N⎦


Japanese      kare 'he'            ano N 'that N'
                 kore 'this'           distal          ---------------------   N-------------------------------
              sore 'that' medial
            are 'that' distal
                kono N 'this N'
                sono N 'that N' medial
```

As the table shows, English weak pronoun (unstressed) correspond to Japanese zero pronoun, which is roughly acceptable.　Since Japanese is a language that has no definite/indefinite article, entities realized in the form of bare nouns must cover three range of cognitive status. That is, bare nouns can be compatible with any of type identifiable, referential, or uniquely identifiable. The first issue is to define how Japanese bare NP are allocated into any of these three statuses.　The reliable grammatical solution to distinguish them may be that according to morphological information, bare nouns are basically distinguished into either NP with subject marker *ga* as indefinite or NP with topic marker *ha* as definite.　However, this rule, in reality, does not always work successfully.　Then, English *that* can be compatible with either Medial *so-* or Distal *a-* series in Japanese, but practical division of English *that* into Japanese is not easy.　Basically, Medial *so-* series, either adnominal (*sono* N) or pronoun (*sore*), require at least activated, because, as we have noted, they are basically used as anaphoric. In contrast, Distal *a-* series in both adnominal (*ano* N) and pronoun *are* basically deictic and requires at least familiar status.　This fact is shown in the following example:

(2)
Kinou　　　Yamada san　ni aimashi ta.　　Ano hito　kawatta hito desu ne.
Yesterday　　Yamada Mr/Mrs OBJ　meet　PAST　That　person different person is　FP.
'Yesterday I met Mr Yamada. That person is different, isn't he.'

(3)
(The husband ask his wife for something, who has been together with him for many years.)
Oi,　　are　motte kite　kure.
INTERJEC that　bring come　IMP
'Hey, bring that to me.'　　　　　　　　　　　　　　　　　　　　(Kinsui 1999: 72)

That person in example (2) appears to be anaphoric in the sense that the referent is in the immediately previous utterance, but *ano* (*that*) indicates accessible referent in the

hearer's current memory rather than the current discourse. Example (3) is also the evidence that 'the entity' instead of 'the referent' is in the hearer's current memory rather than in the extra-linguistic situation. Here distal *are* indicates that the accessible entity lies in the hearer's long-term memory that the speaker think should be retrievable without any linguistic context. This usage is what is called as 'reminder' (GHZ) or 'recognitional' (Himmelman) and more like 'interactional' in Kitano's (1999) sense. Therefore:

(3)'
Ano hito/ *Sono hito/ ?Kare kawatta hito desu ne.
'That person/He is different, isn't he.'

As example (3)' shows, purely anaphoric *sono* is not acceptable, because the entity is not currently activated. *Kare* may possibly be an alternative reference, because this English-translated 'demonstrative pronoun' in GHZ's interpretation is only acceptable if the speaker knows the person quite well. Otherwise, *Kare* is rather impolite, because the speaker only met him once. In English, on the other hand, pure referential pronoun *he* will be the most natural translation. Thus, Japanese demonstratives may need more special account on the correlation between forms and cognitive statues.

Furthermore, Gundel (1998) attempts to integrate this framework with centreing theory on the ground that GHZ and centreing theory make similar predictions about the distribution and interpretation of pronouns and full NPs in naturally occurring discourse (183). GHZ (1993) assumes that pronouns (and zero pronoun in Japanese) refer to entities at the 'centre of attention', whereas demonstratives have less accessible and less salient referents. In fact, the concept of a 'focus shift' (GHZ:1993:297) may be correlated with the states of SMOOTH- or ROUGH-SHIFT transition in Centreing terms. Let us now look into the Centreing Theoretic account of reference in discourse in section 5.

5 Centreing Theory

Centreing is a model of the conversant's centre of attention in discourse that is concerned with the relationship of attentional state, inferential complexity, and the form of referring expressions. (Walker, Joshi, and Prince 1998) What they call 'centre' is distinguished into three different types: $Cf(U_i, D)$, $Cb(U_i, D)$, and Cp. $Cf(U_i, D)$ indicates FORWARD-LOOKING CENTRES, representing discourse entities evoked by an utterance U_i in a discourse segment D (Webber 1978; Prince 1981). $Cb (U_i, D)$ indicates the BACKWARD-LOOKING CENTRES, which is a special member of Cf representing the discourse entity that the utterance U_i most centrally concerns. The Cb is the entity that can commonly correspond with what is called 'topic' in Givon's sense as in current focus of attention in the utterance. Cp is the PREFERRED CENTRE representing a prediction about the Cb of the following utterance. These three centres structure in their latest stage three constraints, two rules and the typology of transition states (CONTINUE, RETAIN, SMOOTH-SHIFT, and ROUGH-SHIFT) as presented and interpreted by Walker, Joshi, and Prince (1998).

5.1 Centre transition in Japanese MTC

According to Kameyama's original proposal that zero pronouns in Japanese correspond to unaccented pronouns in English (Kameyama 1985), Rule 1 is extended

directly to zero pronouns: 'If some element of Cf(U_{i+1}, D) is realized as a pronoun in U_i , then so is Cb(U_i, D)' That is, Cb is presumed to be the most salient entity in the current utterance as 'a local topic by both the speaker and the addressee'. (Brenan 1995) Cf ranking for Japanese according to discourse salience is given below (Walker, Iida, and Cote 1994; Iida 1998):

Cf Ranking for Japanese:
(GRAMMATICAL OR ZERO) TOPIC>EMPATHY>SUBJECT>OBJECT2>OBJECT>OTHERS

Here is a preliminary analysis of transcripts from Japanese task-oriented dialogue:

(4)(a) G: sutaato chiten no minami gawa ni tatemono ga   aru no wa wakarimasu
           starting point GEN south side at building SUBJ there is TOP see
           ka.
           Q
           'Do you see there is a building at the south side of the starting point?'

> Cb: [?]
> Cf: [BUILDING, SOUTH] No Cb

  (b) F: hai   ari masu.
      Yes SUBJ is
           'Yes, there is (a building).'

> Cb: BUILDING
> Cf: [BUILDING] CONTINUE

  (c) G: mazu   sono   tatemono o   mezashite   susumi masu ga
           to begin with DEM(M) building OBJ towards SUBJ go
      'To begin with, (you) go towards that building.'

> Cb: BUILDING
> Cf: [BUILDING, YOU] RETAIN

  (d) G: sono tatemono   no nishigawa o   tootte   nankashite   kudasai
           DEM(M) building GEN west side OBJ passing SUBJ go down south please
           '(You) go down south passing the west side of that building, please.'

> Cb: BUILDING
> Cf: [BUILDING, WEST, YOU] RETAIN

In (4a) *a building* introduces a centre that is established as the Cb in (4b) by the rule Zero Topic Assignment (henceforth ZTA) proposed by Walker, Iida, and Cote (1994) and Iida (1998). Then in (4c) the centre corresponding to *a building* is realized by demonstrative determinar (Medial *sono*) the centre for *that building* is ranked lower on the Cf than the centre for *you* by zero, but *that building* is still the Cb, so the centreing transition is a RETAIN. Then *the building* gains the centre of attention in the sebwequent utterance:

(e) G: jaa sono   tatemono ha   ima kita ni mieteimasu ka sutaato chiten
       so DEM(M) building TOP/SUBJ now north in seen   Q strarting point
    kara
    from
    'So now is that building seen in the north from the starting point?'

> Cb: BUILDING
> Cf: [BUILDING, STARTING POINT] SMOOTH SHIFT

(f) F: to ima   nishigawa ni arimasu kedo
        now SUBJ   west side in is   though

'(The building) is in the west side now, though..'

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Cb: BUILDING
Cf: [BUILDING] CONTINUE
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In (4e) *that building* is re-mentioned on the topic/subject position after intervening speech that contains the new entity *field*. The only centre that provides a link to the prior discourse is the centre for *that building*, so that the centre is the Cb. However, since the Cb in the immediately preceding utterance is *fields*, the Cb must shift in a SMOOTH-SHIFT transition. Then follower's utterance (4f) is a CONTINUE transition, because Cb is the same as in (4e) and because the Cp (4f) is the same as the Cb(4f). Thus, as we have seen, grammatical or Zero Topic has been the Cb to continue as the Cp, and *that* NP occurs only in RETAIN and SMOOTH-SHIFT transition.

5.2 Centre transition in English MTC

Cf ranking for English is:

Subject > Object(s) > Other

As the data shows, the way the speaker of MTC make a discourse entity that is activated salient is mainly demonstrated by the use of anaphoric demonstratives and the repetition of the full NP:

(5)
(a) *TA 18
Right, if you go to the left... do you have something just directly
below the cross?

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Cb: [?]
Cf: [SOMETHING, CROSS] No CB
```

*TB 19
Yeah.
(b) *TA 20
< If you go to the left of that, and draw a line down to about... two or
three centimetres above the page /

```
Cb: SOMETHING(THAT)
Cf: [THAT, LINE, PAGE] RETAIN
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(c) *TB 21
Below the level of the object below the cross? >

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Cb: SOMETHING(THE OBJECT)
Cf: [OBJECT, CROSS] RETAIN
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(d) *TA 22
above the bottom of the page.

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Cb: PAGE
Cf: [PAGE] ROUGH SHIFT
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(e) *TA 23
Yeah, go to the left of the object, and go down... Do you have another
{a dia} {m erm} object at the bottom.

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Cb: OBJECT
Cf: [OBJECT, ] ROUGH SHIFT
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Cb: ANOTHER OBJECT
Cf: [ANOTHER OBJECT] ROUGH SHIFT
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  *TB 24
    No.
(f) *TA 25
Below that one.
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| Cb: OBJECT |
| Cf: [THAT ONE] RETAIN |

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  *TB 26
  No.
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The first-mentioned entity *something* in (5a) is not pronominalised in the subsequent utterance. The speaker re-mention the entity by demonstrative pronoun *that* in (5b), the full noun *the object* in (5c) and (5e), and the contrastive use of demonstrative adnominal *that one* in (5f) as re-identification. The entity initially introduced in the object position in (5a), and then subsequently maintained in the object of prepositions, yet never occurs in the subject position. This can mean that a series of entities cannot gain saliency that are to become the discourse centre, and ends in the transition of RETAIN and ROUGH-SHIFT. As the data shows, Cf ranking may properly predict that the deictic forms of reference are less salient. However, these deictic elements can be pragmatically coherent in discourse organization despite the location in the lower ranking.

6 Concluding remark and further research

In this paper, I have presented a corpus-based analysis of the distribution and discourse function of the deictic expressions, and have found out that *sono* NP and *that/that* NP mainly occurred in RETAIN and SMOOTH- or ROUGH-SHIFT centreing transitions. This result can support the claim that 'anaphoric demonstratives are often used to indicate a referent that is somewhat unexpected and not currently in the focus of attention'(GHZ 1993, Dissel 1999). Especially, demonstrative determiner has some special effect or implicature, where the referent has been activated but not focus. (Gundel 1998) That is, both transitions explicitly show that the current centre, that is, the focus of attention, has been shifted on 'the discourse node which the pointer is marked moves from node to node on the tree representing the information of the discourse'. (Linde:1979: 345) Presumably, contrary to most of the researchers who considers deixis as organised around 'deictic centre' of the speaker, I will argue that the deictic centre can be shifted from the speaker to the addressee, depending on how the current discourse is organised: the typical evidence can be the use of the Medial *so*-series in Japanese and *that/that* NP in English, because these are the linguistic forms that is accessible to the hearer's domain. I will further investigate what kind of grammatical and morphological rules can indeed affect the interpretation of grammatical or Zero Topic and deictic elements, and to what extent other discourse factors such as connectives and cue phrases can affect the discourse organization in structuring and focusing the discourse segment. Thus further study needs to explain that in what condition anaphoric demonstratives are employed, and what types of discourse factors are correlated with the discourse segment by signalling the boundary, and how the interaction between grammatical or Zero Topic and deictic elements is interpreted.

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