Linguistic and gestural introduction and tracking of referents in L1 and L2 discourse
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Chapter 6. Bi-modal introduction and tracking of inanimate referents in L1 and L2

6.0 Introduction

In the previous two chapters, we have examined the introduction and tracking of animate referents in two modes of expressions, linguistic and manual, in L1 Dutch and Japanese and L2 narrative production. This chapter focuses on the introduction and tracking of inanimate referents. The chapter is divided into two major sections. The first section presents the results of the cross-linguistic analyses of the bi-modal introduction of inanimate referents in the two native groups, followed by the results by the Dutch learners of Japanese. The second section presents the results of the bi-modal tracking of inanimate referents in the same order. First, we present the results of the cross-linguistic analyses, followed by those by the Dutch learners of Japanese.

6.1 Linguistic introduction of inanimate referents in L1 Dutch and Japanese

There are a total of 300 inanimate referent introductions in the L1 narratives: 108 in L1 Dutch and 192 in L1 Japanese. These will be analysed for the lexical marking, syntactic roles and the structures used for the introduction.

6.1.1 Lexical marking of newly introduced inanimate referents

In the Frog story, several inanimate referents make an appearance. In the following, we will first examine how the newness of referents is marked at the local word level. As in the introduction of animate characters, both the Dutch and Japanese native speakers use an NP to introduce inanimate referents. In Dutch L1, they are often marked by an indefinite article een (‘a/an’). However, a definite article het (‘the’) may be used, as in het water (‘the water’). In L1 Japanese, speakers sometimes used aru (‘certain/one’) or a classifier when introducing inanimate referents as in (1) and (2).

(1) de, nanka aru maruki ga atte
then INJ a certain tree trunk NOM exist:TE
then there was a tree trunk, and

(2) mazu ippon no hosoi ki no shita ni ana ga aiteita node
first one-CLS GEN thin tree GEN underneath DAT hole NOM open:TE-ASP:PAST so
first, there was an opening under one slender tree
In (1), the speaker uses *aru* (‘certain/one’) in introducing the *tree trunk*. In (2), the speaker uses a classifier for trees to mark the newly introduced inanimate referent. However, the use of expressions such as *aru* (‘a certain/one’) or classifiers varies among speakers.

Since the post-positional particles are used irrespective of the animacy of the referents, their distribution is analysed below.

**Table 6.1. Distribution of the forms used for inanimate referent introduction in L1 Japanese**

<table>
<thead>
<tr>
<th></th>
<th>NP-ga</th>
<th>NP-ni</th>
<th>NP-no</th>
<th>NP-o</th>
<th>NP-expl(^1)</th>
<th>NP-kara</th>
<th>NP-(\emptyset)</th>
<th>NP-de</th>
<th>NP-others(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(32%)</td>
<td>(23%)</td>
<td>(23%)</td>
<td>(6%)</td>
<td>(5%)</td>
<td>(4%)</td>
<td>(3%)</td>
<td>(1%)</td>
<td>(3%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.1 shows that the nominal particle *ga* is used in 32% of the introduction. Although the figure is lower than that in animate introduction, *ga* is used as a newness marking for around one-third of the inanimate reference introductions. The next most frequently used particles in L1 Japanese are a dative, *ni*, and a genitive, *no* (23% each). The former is a spatial particle and the latter is used to form spatial expressions. A brief explanation about these particles is in order.

Unlike in Dutch (*in, naar, op etc.*), the Japanese particle *ni* does not clearly distinguish locative and directional information. On its own, *ni* can be either locative or directional. For instance, the prepositional phrase *ie ni* can be used as locative as in *ie ni iru* (‘(is) in a house’), or as directional as in *ie ni iku* (‘go to a house’) or *ie ni hairu* (‘go into a house’). Aside from *ni*, there are only a limited number of particles that express locative/directional information such as *de* (‘in’) and *kara* (‘from’). The other spatial information is expressed by combining spatial nouns and *ni*. However, the locative/direction contrast is not clearly expressed by these combinations, either. For instance, a combination of a locative noun *ue* and a particle *ni, ue ni*, remains the same in a locative expression such as *fuusen ga teeburu no ue ni aru* (‘a balloon is on a table) or in a directional one such as *fuusen ga ue ni agatteiku* (‘a balloon goes up (lit. ascend: go)). Other examples are *shita ni* (‘under, beneath, below, down’), *mae ni* (‘in front of, forward’), *ushiro ni* (‘behind, backward’). Thus, in comparison to L1 Dutch where speakers mostly use spatial particles to express the locative/direction distinction, Japanese speakers convey the distinction between location and direction in other parts of the sentence, namely verbs (c.f. Talmy 1985).

Thus, going back to Table 6.1, the results show that around a quarter of inanimate referent introduction occurs with a spatial particle, *ni*, and another quarter with some spatial expression which requires a genitive, *no*. In other words, the choice of particle suggests that Japanese speakers may not always introduce inanimate referents as the object of spatial expressions (see below).

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\(^1\) NPs in this category are introduced as expletives, as in *shita wa kawa ni natteiru* (‘Below is a river’).

\(^2\) *Others* include *mo* (‘also’) and *made* (‘up to’).
6.1.2 Syntactic roles assigned to introduced inanimate referents
Since it is considered very unlikely that the inanimate referents in the Frog story assume agentive roles, we have only examined their syntactic roles when first introduced. In L1 Dutch, 97% (105 of 108) of the referents are introduced in non-subject role, mostly in adpositional phrases in VPs. On the other hand, 39% (75\(^3\) out of 192) of the newly introduced inanimate referents assume non-VP role in L1 Japanese.\(^4\)

![Figure 6.1. The distribution of VP and non-VP roles assumed by newly introduced inanimate referents in L1 Dutch and Japanese narratives](image)

6.1.3 Structures used to introduce inanimate referents
6.1.3.1 Introduction of referents representing static locations
The inanimate referents introduced in the Frog story can be roughly categorized into two groups:\(^5\)

a) referents assigning locations to entities
b) referents indicating changes of locations

The first group involves static points in space, while the second group involves two points, the beginning- and the end-points of movements. In the following, we will first examine the general trend found in the introduction of inanimate referents representing static locations of entities. One of the inanimate referents frequently mentioned by the speakers is the jar where the frog is kept. Examples (3) and (4) are excerpts from the data:

(3) Die kikker woonde in een glazen pot
    The frog lived in a glass jar

(4) de sono kaeru ga bin no naka ni haitteru no
    then that frog NOM jar GEN inside DAT enter:TE-ASP:NONPAST SE
    then that frog is in a jar

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\(^{3}\) The figure is slightly higher than the total number of referents followed by ga and the expletives in Table 6.1 because referents followed by mo and some of the zero-marked referents occur in subject role.

\(^{4}\) VP here means an adpositional phrases in the VP. Thus, non-VP in Japanese includes existential constructions, aspectual expressions, as in ana ga aiteiru (lit. ‘A hole is open’ but translated as ‘There is a hole’) and expletives. In the present study, the latter two expressions are termed as ‘presentatives’.

\(^{5}\) Inanimate referents in narratives may be introduced as objects of verbs that do not involve any movements (see Chapter 1). However, the number of such introductions was small in the present data.
The speakers in (3) and (4) introduce the inanimate referent, the *jar*, as the location where the *frog* is kept. The animate entity is situated ‘in’ the newly introduced referent. Due to the difference in word order, the new referent is introduced post-verbally in Dutch and pre-verbally in Japanese. In (5) and (6), the *tree trunk* is introduced in L1 Dutch as a referent assigning location to animate characters.

(5) Achter een boomstammetje zit een kikkertje  
*Behind a tree trunk sits a frog*

(6) Ze sluipen achter een boomstronk  
*They sneak up behind a tree trunk*

In (5), the inanimate referent, *boomstammetje* (‘tree trunk’), is introduced as a spatial reference to the location of the *frog*. Unlike the case of the *jar* and the *frog*, the inanimate referent does not subsume the location of the animate entity. The spatial relationship between the inanimate entity and the *frog* is front vs. behind. The existence of the inanimate referent is not expressed in an existential. In (6), the inanimate referent indicates the location where the action by the animate entities takes place. The existence of the inanimate referent is again not explicitly mentioned by the use of existential construction. Observe (7) and (8) where the same referent is introduced somewhat differently in L1 Japanese.

(7) sorede nanka ki ga kuchihateta taiboku mitai no ga atte maruta ga ne  
*then INJ tree NOM rotten rod like one NOM exist:TE tree trunk NOM*  
*PP then, there is a rotten rod like thing, a tree trunk, you see*

(8) sono kawa no naka ni maruta taoreta maruta mo ochiteitandakedo  
*that river GEN inside DAT tree trunk fall:PAST tree trunk also fall:TE-ASP:PAST-SE-but*  
*in that river, a tree trunk, fallen, a tree trunk that has fallen down was also (lying there), but*

In (7), the *tree trunk* (expressed as the *tree trunk*) is introduced in the existential construction with the verb *aru* (‘exist’). Other referents are not mentioned in the same clause. The speaker in (8) introduces the referent in subject role and uses an aspectual expression *ochiteiru* (‘lit: fell and is (lying there)’). In both (7) and (8), the existence of the inanimate referent is clearly indicated linguistically.

Table 6.2 shows whether the existence of the *tree trunk* is clearly mentioned or assumed in its introduction into the narratives in the L1 Dutch and Japanese. A clear contrast is observed between the two groups. In L1 Dutch, none of the speakers uses existential constructions to introduce the inanimate referent, while the Japanese speakers in 90% of the cases do so.

The difference in the way inanimate referents are introduced between the two groups seems to parallel the findings of Carroll & von Stutterheim (2003), who found that, in narratives describing spatial relationship of inanimate entities, speakers of English and Spanish tend to introduce inanimate referents with existential
constructions so that the existence of the referents is explicitly indicated. On the other hand, speakers of German prefer to use constructions where the existence of the new inanimate entities may be assumed.

Table 6.2. The distribution of speakers with respect to the explicit mention of the existence of the inanimate referent

<table>
<thead>
<tr>
<th></th>
<th>Dutch L1 narrative (N=12)</th>
<th>Japanese L1 narrative (N=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>existence is mentioned</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>existence is assumed</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>no mention of the referent</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>12</td>
<td>15</td>
</tr>
</tbody>
</table>

6.1.3.2 Introduction of referents representing change of locations
Sometimes during the story, the animate characters move from one place to another. The description of such motion events involve two different inanimate referents representing the beginning and end-points. In the Frog story, the changes of location occur toward the end of the story where the deer starts running to the cliff, and drops the boy and the dog off the cliff into the water/pond below. The inanimate referents supply the information about the locations of the motion event. In L1 Dutch, inanimate referents are generally introduced in the adpositional phrase in the VP. The speaker in (9) introduces the pond.

(9) en belandt zo op he gewei van een hert dat weg rent  
en hem in een kleine poel gooit  
and (he) landed like this on the antlers of a deer which runs away  
and throws him in a small pool of water

In (9), the new inanimate referent, poel (‘pool of water’), illustrates the goal of the action. The referent is introduced in the clause where the action is described.

In (10), the introduction of the cliff shares some characteristics with the introduction of the pond in (9): The new referent, afgroond (‘cliff’) is introduced into the narrative as object of the preposition naar toe (‘to’).

(10) jongetje zit op de kop van het hert  
rent met het hert ergens naar toe een, ja hoor, grote afgroond  
the boy sits on top of the deer  
(he) runs with the deer to a, right, big cliff

In contrast, about a half of the Japanese speakers introduce the water/pond in a clause separate from the one which describes a motion event engaged by animate referents, as in (11).

(11) eto sono shika wa hashitte itte  
INJ that deer TOP run:TE-go:TE
→ chotto chottoshita gake ninatteiru tokoro ga atte
little little cliff become:TE-ASP place NOM exist:TE

de soko de kyuuni stop kyu bureeki shita kara
then there DAT suddenly stop sudden break do:PAST because

otoko no ko to inu wa sono mamma
male GEN child and dog TOP that as

sono chiisai gake no tokoro o ochiteshimaimashita
that small cliff GEN place ACC fall:TE-ASP:PAST

sono shita ni wa
that below DAT TOP

(NL: inu mo ochichatta no)
dog also fall-ASP:PAST SE

inu mo ochichatta no
dog also fall-ASP:PAST SE

→ sono shita ni wa numachi ga atte
that below at TOP puddle NOM exist:TE

futari tomo sono numachi ni ochiteshimaimashita
two both that puddle DAT fall-ASP:PAST

well that deer went running, and
there is a little a little cliff like place (lit: a place that has become a little cliff)
then because (φ) suddenly stopped there, (φ) performed a sudden halt
the boy and the dog were let go and ended up falling at the cliff like place
below that
(NS: Did the dog also fall?)
the dog fell together
below that, there was a puddle, and
the two of them ended up falling into that puddle

In (11), the speaker introduces both the cliff and the puddle into the narrative. The introductions of the inanimate referents occur in a presentative expression with ninatteiru (‘is’ (lit. has become)) and existential construction with aru (‘exist’), with the new referents assuming subject role in both cases followed by a nominal marker ga (shown by arrows). Observe another example:

(12) nanka gake tsuuka chotto kodakai chotto takai gake kara
INJ cliff QT say Q a.little elevated a.little high cliff from
nanda shita ike natte ike mitaini nattete
INJ below pond become:TE pond like become:TE-ASP:TE

soko tsukiotosarechatte
there push-drop-PASS-ASP: TE

well from a cliff, or more like, a slightly elevated, slightly high cliff
what, below that is like a pond (lit: has become a pond).
There, (he) was pushed (so that he was) dropped down

The speaker in (12) introduces the cliff and the pond before the action of falling is mentioned. The cliff is introduced in the VP. However, because the introduction of the pond is inserted, the cliff is introduced in speech much before the information about the fall. The pond is introduced in subject role in the existential construction. Thus, the existence of the pond is clearly mentioned.

As mentioned in Chapter 1, Slobin (1996) found that the speakers of typologically different languages (‘manner-verb’ vs. ‘path-verb’ languages) adopt different rhetorical styles in describing motion events. The difference observed in the introduction of inanimate referents in L1 Dutch and Japanese seems to bear this view out. The attention paid to setting up the static scene in L1 Japanese may be reflected in the provision of detailed information about the inanimate referents themselves. In contrast, the Dutch speakers do not seem to attend to setting up the location prior to describing particular motion events.

Furthermore, some speakers in L1 Japanese provide quite detailed information about inanimate referents. In (13), the speaker provides three extra clauses after the introduction of the cliff to elaborate on the description of the referent, including the fact that the cliff is about one meter high. Such elaborations are not observed in the Dutch data.

(13) de, shika wa gake kara otoko no ko o otoshichaimashita
then deer TOP cliff from male GEN child ACC drop-ASP:PAST
dakedo, maa, sonnani takai gake janakute
cop-but INJ that much high cliff COP-NEG:TE

1 meeteru gurai no gake de
1 meter about GEN cliff COP:TE

ogawa ga nagareteiru yoona chicchai gake datta no
creek NOM run-ASP:NONPAST MOD small cliff COP:PAST SE
and the deer ended up dropping the boy from a cliff
but, well, (it) was not such a high cliff
(it) was about 1 meter high, and
(it) was like a little cliff with a creek running(below)
6.2 Gestural introduction of inanimate referents in L1 Dutch and Japanese

6.2.1 Quantitative analysis of gesture accompanying introduced inanimate referents
We have tallied every gesture accompanying the introduction of an inanimate referent in the narratives. The total number of gestures was 149, with 37 produced by L1 Dutch speakers and 112 by L1 Japanese. Figure 6.2 shows the frequency of gestural accompaniment.

![Frequency of gesture accompanying the introduction of inanimate referents in L1 Dutch and Japanese narratives](image)

Figure 6.2. The frequency of gesture accompanying the introduction of inanimate referents in L1 Dutch and Japanese narratives

An omnibus repeated measures analyses of variance with one 3-level between-subjects factor (language group) and one 2-level within-subjects factor (frequency of gesture) show that there is a group effect for the frequency of gesture \( F(2, 39) = 6.249, p < .001 \). Post hoc analyses with the Dunnett T3 post hoc criterion for significance indicate that the average frequency of gestural marking of the newly introduced inanimate referents is significantly lower in L1 Dutch than in L1 Japanese (Table 6.3).

<table>
<thead>
<tr>
<th></th>
<th>mean difference</th>
<th>std. error</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1 Dutch</td>
<td>L2 Japanese</td>
<td>-.258*</td>
<td>.080</td>
</tr>
<tr>
<td>L1 Japanese</td>
<td>L2 Japanese</td>
<td>-.245*</td>
<td>.080</td>
</tr>
<tr>
<td>L2 Japanese</td>
<td>L1 Japanese</td>
<td>.012</td>
<td>.076</td>
</tr>
</tbody>
</table>

Table 6.3. Frequency of gestural accompaniment of new inanimate referents (Dunnet T3)

6.2.2 Qualitative analysis of gesture accompanying introduced inanimate referents

6.2.2.1 The introduction of the frog in a jar
The following analysis will focus on gestures accompanying the introduction of inanimate referents in the following scenes: a) the introduction of the frog in a jar, b) the main characters’ fall into a pond, and c) discovery of the frog behind a tree trunk. The main reason for this choice is that mention of these referents was accompanied by gestures in both L1 (and L2) groups.
The *jar* is frequently introduced in speech as the place where the *frog* is kept. Figures 6.3a and 6.3b show the gestures accompanying the introduction of the *jar* in the L1 Dutch narratives. The gestures depict an entity, supposedly the *jar*. The speakers in the examples depict an entity with one or both hands. The gestures synchronize with the NPs. The locative preposition, *in* (‘in’), may or may not be part of a gesture.

![Figure 6.3a](image)

**Figure 6.3a.** A gesture showing a *jar* as an entity

![Figure 6.3b](image)

**Figure 6.3b.** A gesture showing the *jar* as an entity

Figure 6.4 shows a gesture tracing the outline of the entity. When the speaker introduces the *jar* in speech, she moves her hands in parallel from the low central gesture space to the centre-centre gesture space, tracing the outline of the vessel.

![Figure 6.4](image)

**Figure 6.4.** A gesture tracing the outline of an entity

The Dutch speaker in Figure 6.5 performs a gesture which synchronizes with the word *in* (‘in’). The gesture is held in the same position until the word *pot* is uttered.
en s’nacht ontsnapt de kikker die \[zaten in een glazen pot\]
*and during the night, the frog escape, he was in a glass pot, sitting*

**Figure 6.5.** The introduction of the *jar* overlapping with the post-stroke hold

In Figures 6.6a and 6.6b, the Japanese speakers introduce the *jar*. Both speakers mention the inanimate entity as the place where the *frog* is kept. Both gestures are held in the same position until the speakers supply a verb. Similar locations and hand shapes are observed in their Dutch counterparts.

**Figure 6.6a.** A gesture accompanying the introduction of the *jar*

**Figure 6.6b.** A gesture accompanying the introduction of the *jar*

Japanese speakers also perform gestures tracing the outline of the entity. In Figure 6.7, the speaker’s hands outline the entity as in the example above. Both hands move
downwards until they meet at the bottom of the imaginary jar. Afterwards, the hands repeat the same motion upwards outlining the same entity. The repetitive movement continues until the end of the utterance. Such repetitive tracing of the jar is rarely observed in L1 Dutch.

### 6.2.2.2 The main characters’ fall into a pond

Some inanimate referents in the story represent the location of the motion event. In Figures 8 and 9, the Dutch speakers introduce the water. In Figure 6.8, the speaker introduces the referent as the goal of the action of throwing. As het water (‘water’) is uttered, the speaker changes his hand orientation. The wrist is twisted and the curved fingers are stretched so that the slightly downward-facing palm now faces up. The hand movement seems to depict the act of throwing. Furthermore, the gesture overlaps with the mention of the water and a directional preposition in (‘into’) of the verb ingekierperd (‘dumped into’).

![Figure 6.8. Gesture accompanying the introduction of the river](image)

In Figure 6.9, the moment the speaker uses the verb smijt (‘throw’), he changes the orientation of both hands. The gesture seems to depict the act of throwing. As in the example in Figure 6.8, the gesture overlaps with the mention of the directional preposition, in (‘in’), and the referent.

![Figure 6.9. Gesture accompanying the introduction of the water](image)
In comparison to L1 Dutch, the introductions of the cliff and the water/pond in L1 Japanese are frequently accompanied by gestures which graphically depict the entities, and in some cases, the spatial relationship between the two inanimate referents. In Figure 6.10, when the speaker introduces the cliff, the right hand repeatedly traces a curve, while his left hand is kept in the central gesture space (Figure 6.10:1). The movement of the right hand suggests the edge of the cliff, while the left hand seems to represent the top of the cliff. When the speaker says ‘below is like a pond’, the speaker lowers his right hand and moves it sideways with an open hand with the palm facing downwards (Figure 6.10:2). The gesture seems to depict the surface of the pond. After the scene setting is complete, the fall of the boy into the pond is mentioned in the following clause. The mention of the fall is accompanied by a gesture depicting the trajectory of the movement (Figure 6.10:3). Thus, unlike gestures in L1 Dutch, the gestural marking of a new inanimate referent does not overlap with a path-expression.

**Figure 6.10.** Gestures accompanying the introduction of the cliff, the river and the motion event

In Figure 6.11, the speaker also introduces the cliff and the pond. When the cliff is introduced in speech, the right hand seemingly describes the cliff by repeatedly moving up and down, while the left hand is kept in the same position, most likely indicating the edge of the cliff (Figure 6.11:1). After the mention of the deer’s halt, the speaker introduces the pond (introduced here as the river) in speech. The mention of the referent is accompanied by a gesture where the right hand shows the surface and
extent of the river. In the meantime, the left hand is held in the same position as in the previous gesture (Figure 6.11:2), indicating the edge of the cliff. This anaphoric use of gesture indirectly helps to indicate the identity of the demonstrative, sono (‘that’), in speech as the cliff. The fall of the boy and the dog are mentioned after this scene setting (not shown here). In both Figures 6.10 and 11, gestures depict the physical relationship between the cliff and the river in a three-dimensional manner. Note that both gestures do not synchronize with expressions describing a path in speech.

![Gesture images](image1)

1 [koo gake ni matteru kara] [in this way cliff into become-ASP:NONPAST because]
2 [sono shita wa kawa ninatterundakedo] [that underneath TOP river to become:NONPAST SE-but]

shika wa soko de ‘pyu’itto tomaru no
deer TOP there at INT Q stop:NONPAST SE
tomattara shonen wa
stop:COND boy TOP

‘Because it’s a cliff like this, the deer stops like ‘pyu’. When (φ) stopped, the boy, underneath it is a river like this.

**Figure 6.11.** Gestures accompanying the introduction of the cliff and the pond

### 6.2.2.3 Discovery of the frog behind a tree trunk

We will next examine the gestures accompanying the introduction of the tree trunk in L1 Dutch and Japanese narratives. In Figure 6.12, the Dutch speaker introduces the inanimate object as a spatial reference point to describe where the frog family is. Note that the existence of the inanimate referent is assumed but not clearly mentioned in speech.

![Gesture images](image2)

en dan [kijken ze achter een stronk]
and then they look behind a tree trunk

**Figure 6.12.** Gesture accompanying the introduction of the tree trunk in L1 Dutch narrative
The introduction of the inanimate referent is accompanied by a deictic pointing gesture with a right forefinger which traces a slight curve as it quickly moves forward and comes back. The quick movement synchronizes with mention of the spatial expression and the inanimate referent, *achter een stronk* (‘behind a tree trunk’).

In Figure 6.13, the speaker introduces the inanimate referent in the VP in a similar manner to the speaker in Figure 6.12. The deictic gesture which provides locative information overlaps with the mention of the spatial expression and the inanimate referent, *achter een boomstammetje* (‘behind a tree trunk’).

![Figure 6.13. Gesture accompanying the introduction of the tree trunk](image)

*Figure 6.13. Gesture accompanying the introduction of the tree trunk*

In Figure 6.14, the speaker introduces the referent, *boomstronk* (‘tree trunk’), in a slightly different way from the previous L1 Dutch examples. He introduces the *tree trunk* as a reference point for describing the location of the action of *sluipen* (‘sneak up’). The accompanying C-VPT gesture iconically describes the character engaged in the action. The *tree trunk* is imagined as under the hands. However, the gesture does not trace the outline of the inanimate referent. Again, the gesture overlaps with the spatial preposition and the newly introduced inanimate referent.

![Figure 6.14. Gesture accompanying the introduction of the tree trunk](image)

*Figure 6.14. Gesture accompanying the introduction of the tree trunk*

In contrast, the gestures in L1 Japanese synchronize with the mention of the *tree trunk*. Furthermore, most of them trace the outline of the referent. In Figure 6.15, the speaker mentions the existence of the *tree trunk* using an existential construction.
When the new referent is mentioned in speech, the speaker moves his open hands from the centre outwards, as if tracing the outline of a tree trunk.

Figure 6.15. Gesture accompanying the introduction of the tree trunk in L1 Japanese narrative

The Japanese speaker in Figure 6.16 also introduces the tree trunk in an existential construction. The gesture accompanying the introduction of the referent is similar to the one in Figure 6.16. The speaker’s hands depict the outline of the entity. However, this speaker repeats the movement. During the first gesture, the speaker’s gaze is fixed on the entity that she is depicting with her hands in the gesture space in front to her (Figure 6.16:1). However, when the same gesture is repeated, her gaze is fixed on her listener (Figure 6.16:2).

Figure 6.16. A repetitive gesture outlining the tree trunk

Although the present analysis does not specifically focus on the speaker’s gaze, it is worth noting that this tendency is observed among Japanese speakers when the second mention of the inanimate referent is accompanied by repeated gesture performance. The phenomenon is similar to what has been noted about the use of gaze by signers and gesturers. Research shows that the signers may ‘activate the portion of space’ by
gazing (Cuxac 1999). It has also been suggested that speakers attract the attention of their listeners to their gestures by their gaze (Kendon 2004; Streeck 1993). Kendon notes that speakers fix their gaze on their hands when the description of objects begins (2004: 191). Given the fact the speaker’s gaze is not fixated on the accompanying gesture when repetitive information is provided in speech (Figure 6.16:2), we may speculate that the repeated gesture may have a different function from the first, perhaps confirmation of the information with the listener. However, the relationship between gesture and gaze is an area that requires further research.

The speakers in L1 Japanese frequently introduce new inanimate referents by describing their physical relationship to previously introduced referents. For instance, the speaker in Figure 6.17 introduces the tree trunk by relating its location to the pre-introduced river and animal characters. In his first trial, the speaker re-introduces the river and depicts it gesturally by drawing two index fingers in parallel toward him (Figure 6.17:1). However, the speaker encounters a problem in continuing the depiction and abandons the gesture (Figure 6.17:2). The speaker’s trouble is expressed in the meta-narrative statement doo yattara ii kana (‘What would be the best way to do (it)?’). When the speaker continues the narrative proper, he begins by repeating the same information. However, the gesture is repaired. The speaker now represents the river with his arm (Figure 6.17:3). Once reference is fixed, the speaker points to the outer side of the arm, saying koko ni ne (‘here, you see’) (Figure 6.17:4). However, his index finger then quickly touches a different point of his arm, on the inner side. The finger is held at the same place while the expression koko ni otoko no ko to inu ga ita to shitara (‘if the boy and the dog are here’) is uttered (Figure 6.17:5). Only after the position of the two animate characters in reference to the river in his gesture space is made clear, the speaker introduces the tree trunk in the existential construction. As he mentions the demonstrative koko (‘here’), the index finger begins depicting a circle above the outer side of the arm (Figure 6.17:6). The gesture overlaps with the entire clause.

1 Ishitara koo [kawa ga att|e // then in this way [river NOM exist:TE] // then like this there is a river 2 doo yattara ii kana 2 how do:COND good wonder What would be the best way to do this?
Let's say the river is running like this, here, you see if the boy and the dog are here

here is a tree trunk like thing, you see a rotten tree trunk like thing, and

Figure 6.17. Gesture accompanying the introduction of the tree trunk

Thus, utilizing the elaborated sequence of gestures, the speaker physically illustrates the spatial relationships between the river, the boy and the newly introduced tree trunk. This tendency to locate the newly introduced inanimate referents in relation to pre-introduced ones is frequently observed in L1 Japanese but not in L1 Dutch. The difference between the two groups seems to reflect the attention paid to the scene setting in speech.
6.3 Summary of the bi-modal inanimate reference introduction in L1

This section reported on the results of analyses of the linguistic and gestural introduction of inanimate referents in L1 Dutch and Japanese speech and gesture production. The analyses of speech show some shared trends between the speakers of both languages. At the same time, cross-linguistic variations are observed. As in the introduction of animate referents, the newly introduced inanimate referents are denoted by NPs. Dutch speakers use articles as local means of newness marking. Japanese speakers may use classifiers or mention physical qualities (e.g. height or size) of inanimate referents when introducing them for the first time.

Cross-linguistic variations are observed with respect to global newness marking. In other words, the two language groups differ in how new information is linguistically encoded. L1 Dutch speakers show a strong preference for introducing referents in VPs as objects of spatial particles. Thus, new inanimate referents are typically identified as background information upon introduction. The existence of inanimate entities is generally assumed and rarely explicitly indicated by way of existential constructions upon the introduction of those entities. In contrast, the results show that Japanese speakers may use more variety in encoding new information about inanimate referents. In addition to introducing new inanimate referents in VPs as background information, Japanese speakers may use existential or presentative constructions, in particular when they represent Ground, thus foregrounding the new information. For instance, while the jar is mostly introduced in the VP, around half of the speakers introduce the pond using existential or presentative constructions. We speculate that the variation in the way inanimate referents are introduced in L1 Japanese may be related to the spatial relationship between the new referents and the other referents. The existence of the inanimate entities may be mentioned when the positions of the two entities are clearly separated, and the explanation of the position of one entity requires a clear physical reference point. In the case of the jar, the animate referent, the frog, exists within the object. This may be the reason why its existence is inferred. The strong preference for the Japanese speakers to attend to the description of Ground is in accordance with the findings in the literature (Slobin 1996a, 1996b, 2003).

The cross-linguistic difference in speech is reflected in gesture. The quantitative analyses of L1 gesture production show that Japanese speakers are more likely to gesturally mark the new inanimate referents than their Dutch counterparts. It should be noted that some of the gestures produced in L1 Dutch and Japanese during the descriptions of motion events were not counted in the analysis because they did not mark the introduction of inanimate referents in speech. Many of such gestures in L1 Dutch synchronized only with prepositions, while they synchronized only with verbs in L1 Japanese.

The qualitative analyses show that, if Dutch speakers do gesturally mark Ground, their gesture stroke (and sometime post-stroke hold) synchronize with the mention of a spatial preposition and an inanimate referent as one unit. In addition, as prepositions in Dutch play a significant role in distinguishing location and direction, gestures
accompanying the introductions of inanimate referents are typically deictic in nature, marking a location in the gesture space or indicating the direction of a movement, reflecting the speaker’s focus of attention. Gestures iconically depicting the form of an entity are not usually produced unless there is a particular need to focus on the description of the object, as in the case where an animate referent is enclosed inside.

In contrast, gestures accompanying the introduction of inanimate referents in L1 Japanese rarely synchronize with the mention of an inanimate referent and a spatial post-positional particle as a unit. Instead, they frequently synchronize either with the mention of an inanimate referent or with most of the clause including the verb. In addition, newly introduced inanimate referents are typically accompanied by gesture depicting or tracing the outline of objects, reflecting the Japanese speaker’s tendency to foreground the Ground information. Furthermore, some gestures graphically describe spatial relations between inanimate referents. In such cases, two-handed gestures are frequently produced with each hand representing a different entity (e.g. the cliff and the pond). Typically, the hand representing the first referent is held in mid-air (location hold) while the second referent is manually introduced in reference to the location of the other hand. Thus, the information about the physical relationship between referents is foregrounded in both speech and gesture in L1 Japanese. Such two handed gestures or the anaphoric use of hold is not observed in the Dutch data (see Section 6.8).

Given that gestures can project the physical relationship of the referents in the gesture space for the listener to visually share the physical set up of the scene, Japanese speakers, with their the tendency to attend to setting the location of actions, may utilize this characteristic of gesture more frequently than their Dutch counterparts. Similarly, the frequency of repetitive outlining of the inanimate entities may also reflect the higher degree of attention to the inanimate referents in L1 Japanese than in L1 Dutch. Thus, L1 Dutch and Japanese differ in what is encoded manually and how it is encoded. Since the cross-linguistic difference is also observed in tracking of inanimate referents in discourse, we will discuss the explanations for these differences later.

Lastly, we have noted that unusual organization of information in speech may be reflected in unusual gesture performance. For example, the following speaker mentions the cliff and the lake adjoined to the verb phrase in single clause. Our analyses of the Japanese speech and gesture production show that it is not common for the Japanese speakers to compile the information about the source and the goal in the same clause with the mention of the action. In Figure 6.18, this unusual form of description of the scene is accompanied by unusual gesture performance.

Figure 6.18 shows a sequence of gestures that occur in one clause. First, the right hand moves slightly upwards, as the cliff is mentioned in speech (Figure 6.18:1). Immediately afterward, a gesture depicting the surface of the lake accompanies the introduction of the inanimate referent in speech (Figure 6.18:2). When the animate referents are introduced, each mention of the referent is accompanied by a tapping gesture (Figure 6.18:3). The gestures are followed immediately by two hands moving downwards which indicates the fall of the animate referents (Figure 6.18:4). The
speaker thus performs multiple gestures in a single clause. However, such multiple gestures are rarely observed in L1 data. In fact, it has been noted that native speakers in general perform one gesture per clause (McNeill 1992).

![Multiple gestures in a single clause](image)

**Figure 6.18.** Gestures accompanying reference to multiple referents

### 6.4 Linguistic introduction of inanimate referents in L2 Japanese

The introductions of inanimate referents in L2 narrative mostly occur in the following scene descriptions, although it should be noted that not all of the learners mentioned all of the scenes listed;

1. Introduction of the frog in a jar
2. The main characters’ move to a forest
3. The main characters’ fall into a pond
4. Discovery of the frog behind a tree trunk

There are a total of 83 inanimate referent introductions in L2 Japanese. Compared to L1 speakers, L2 speakers refer to inanimate entities less frequently in narratives. Their inanimate reference introduction will be analysed for lexical marking, syntactic roles and the structures used for the introduction.

#### 6.4.1 Lexical marking of newly introduced inanimate referents

The Dutch learners of Japanese introduce inanimate referents with bare NPs. Unlike Japanese native narrators, no L2 speaker uses expressions such as *aru* (‘one/a certain’) or any classifier in front of an inanimate referent that is newly introduced.

Table 6.4 shows the distribution of post-positional particles used for the newly introduced in animate referents in L2 production.
Table 6.4. Distribution of the forms used for referent *introduction* in L1 and L2 Japanese

<table>
<thead>
<tr>
<th></th>
<th>NP-ga</th>
<th>NP-ni</th>
<th>NP-no</th>
<th>NP-o</th>
<th>NP-expl</th>
<th>NP-kara</th>
<th>NP-∅</th>
<th>NP-de</th>
<th>NP-others</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2</td>
<td>5/83</td>
<td>22/83</td>
<td>29/83</td>
<td>13/83</td>
<td>2/83</td>
<td>12/83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>6%</td>
<td>(26.5%)</td>
<td>(35%)</td>
<td>(15.5%)</td>
<td>(2.5%)</td>
<td>(14.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>(32%)</td>
<td>(23%)</td>
<td>(23%)</td>
<td>(6%)</td>
<td>(5%)</td>
<td>(4%)</td>
<td>(3%)</td>
<td>(1%)</td>
<td>(3%)</td>
</tr>
</tbody>
</table>

L2 narrators use the nominal particle *ga* to mark newly introduced inanimate referents much less frequently than their native Japanese counterparts. Instead, *ni* (26.5%) and *no* (35%) are frequently utilized. Interestingly, a spatial particle, *de*, is much more frequently used in L2 than in L1. Given that *de* only indicates locative information (but can only be used with verbs involving actions), some learners may distinguish locative/directional information by using *de* for locative information, resulting in its overuse. The high frequency of the particles used for spatial expressions and the low frequency of *ga* suggests the L2 speakers’ tendency to assign non-subject roles to the inanimate referents (see below).

### 6.4.2 Syntactic roles of newly introduced inanimate referents within the clause

As with the analysis of the L1 narratives, we have tallied the number of inanimate introductions according to the syntactic roles the new referents assume in the clause.

![Figure 6.19](image.png)

**Figure 6.19.** The distribution of VP and non-VP roles assumed by newly introduced inanimate referents in L1 Dutch and Japanese and L2 Japanese narratives

Figure 6.19 shows the distribution of VP vs. non-VP roles assumed by the speakers in the L2 narratives in comparison to the figures for the L1 Dutch and Japanese narratives. Similar to L1 Dutch, 94% of the inanimate referents are introduced in adpositional phrases in VPs. The assignment of a subject role to the new inanimate referent occurs much less frequently in L2 than in L1 Japanese.

---

6 *Others* include *mo* (‘also’) and *made* (‘up to’).
6.4.3 Structures used in the introduction of inanimate referents
6.4.3.1 Introduction of referents representing static locations
For this analysis, two types of inanimate referents are distinguished, as in the analysis for L1 Dutch and Japanese. (14) and (15) are examples of the introduction of the *jar in L2 discourse:

(14) kaeru wa, sono, chiisai gurasu no bin ni, aa, imasu  
     frog  TOP  INJ  small  glass  GEN  jar  DAT,  INJ,  exist  
     *The frog is ehm in well a small jar*

(15) kaeru wa chiisai gurasu no naka ni imashita  
     frog  TOP  small  glass  GEN  inside  DAT  exist:PAST  
     *The frog was in a small glass jar*

In (14) and (15), the speakers introduce the inanimate referent as the location where the *frog* exists. Like the introduction of the same referent in L1 Dutch and Japanese, the mention of the inanimate referent is followed by the locational expression *ni* (‘in’). In both examples, the existence of the entity is not explicitly mentioned. The following examples typify the majority of introductions of the *tree trunk*.

(16) eto, ehm, furui  ki no  ushiro kaeru no uh uh no no  ryoshin ga ga imasu  
     INJ  INJ  old  tree  GEN  behind  frog  GEN  INJ  INJ  GEN  GEN  parents  NOM  NOM  exist  
     well  ehm  behind  an  old  tree,  there  are  the  frog’s  eh  eh  parents  (lit:  the  frog’s  parents  exist)  

(17) eto, dakedo, saigo wa shinde-ita  ki no  ushiro ni  
     INJ  COP  but  last  TOP:TE-ASP:PAST  tree  GEN  behind  DAT  
     kaeru to kaeru no kodomo to kaeru no *uma (tsuma) o mitsukemashita  
     frog  and  frog  GEN  child  and  frog  GEN  *horse  (wife)  ACC  find:PAST  
     well,  but,  as  for  the  ending,  behind  a  dead  tree  
     (he)  found  the  frog,  frog’s  children  and  frog’s  *horse  (wife)  

In (16) and (17), both inanimate referents are introduced in the VP. However, unlike in the Dutch narratives, the new referents are introduced before the provision of the spatial expression due to Japanese word order. Table 6.5 shows the number of speakers who mention the existence of the *tree trunk* in their narratives. The data for the L1 Dutch and Japanese narratives are added for the purpose of comparison. The table shows the tendency of the L2 speakers to omit reference to the inanimate referent. Second, among the L2 speakers who introduce the inanimate referent, no one uses existential constructions.
Table 6.5. Number of speakers who mention the existence of ‘tree trunk’

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>existence is mentioned</td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>existence is assumed</td>
<td>9</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>no mention of the referent</td>
<td>3</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>total</td>
<td>12</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

6.4.3.2 Introduction of referents representing change of locations

The next example illustrates the introduction of the forest. The speaker in (18) introduces the inanimate referent as the goal of his movement.

(18) mazu wa mori ni itte
     first TOP forest to go:TE
     First, (the boy) sent to a forest

In (19), the speaker also introduces the water/pond in an adpositional phrase in the VP.

(19) otoko no ko to inu wa //
     male GEN child and dog TOP://

     sono dobutsu wa otoko no ko to inu to isshoni mizumi ni
     that animal TOP male GEN child and dog with together water to

     // (NL: otosu) soo otohimasu
     //(NL: drop), right, drop:NONPAST
     the boy and the dog//
     that animal // the child and the dog together into the water
     (NL: drop), right, drops

The L2 speaker in (19) has a problem with the selection of the subject of the clause. He mentions the boy and the dog, then pauses. In the repaired clause, the newly introduced referent, dobutsu (‘animal’), assumes the non-subject role of the clause where the inanimate referent is introduced as the end point of an action.

6.5 Gestural introduction of inanimate referents in L2 Japanese

6.5.1 Quantitative analysis of gesture accompanying introduced inanimate referents

There are a total of 50 gestures accompanying the introduction of inanimate referents in L2 Japanese.
Figure 6.20. The frequency of gesture accompanying the introduction of inanimate referents in L1 Dutch, L1 Japanese and L2 Japanese

Figure 6.20 shows the frequency of gestural accompaniment of the newly introduced inanimate referents in the L2 Japanese narratives in comparison to the figures for the L1 Dutch and Japanese narratives.

Recall that an omnibus repeated measures analysis of variance show that there is a group effect for the frequency of gestural marking of the newly introduced inanimate referents \(F(2, 39) = 6.24, p < .001\). Post hoc analyses using the Dunnett T3 post hoc criterion for significance indicate the average frequency of the gestural marking of the newly introduced inanimate referents is significantly higher in L2 Japanese than in L1 Dutch but no difference is observed in the frequency between L1 Japanese and L2 Japanese.

Table 6.6. Frequency of gestural accompaniment of introduced referents (Dunnet T3)

<table>
<thead>
<tr>
<th>Referent</th>
<th>Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2 Japanese</td>
<td>L1 Japanese</td>
<td>.012</td>
<td>.076</td>
</tr>
<tr>
<td></td>
<td>L1 Dutch</td>
<td>.258*</td>
<td>.080</td>
</tr>
</tbody>
</table>

6.5.2 Qualitative analysis of gesture accompanying introduced inanimate referents

6.5.2.1 The introduction of the frog in a jar

As in analysis of L1 gesture, the following analysis of gesture will mainly focus on the introduction of inanimate referents in the following scenes: a) the introduction of the frog in a jar, b) the main characters’ fall into a pond, and c) discovery of the frog behind a tree trunk. Although many speakers describe the main characters’ move to a forest, the number of gestures that marked the introduction of the forest was small.

In Figure 6.21a, the introduction of the *jar* is gesturally marked by a two-handed gesture, most likely depicting the entity. The gesture stroke synchronizes with an NP. There is a small superimposed beat on the second mention of the *bottle*, after which the hands move back to the resting position which overlaps with a particle, *ni*, in speech.
Unlike gestures accompanying the introduction of the *jar* in L1 Japanese, this L2 gesture is completed before the verb is provided. The temporal synchronization is similar to her L1 gesture where the gesture overlaps with a particle and an NP (shown again here as Figure 6.21b).

The speaker in Figure 6.22 also produces a two-handed gesture as he introduces the *jar* in speech. Interestingly, immediately before the introduction of the referent, the speaker moves his right hand diagonally across the gesture space in front of him as if to describe the action of ‘putting in’ (not shown here).

The gesture marking the new referent finishes before the verb is uttered, unlike in L1 Japanese where the gesture hold frequently overlaps with the verb (see Figure 6.6b).

The speaker in Figure 6.23 traces the outline of the *jar*. There are only a few instances of such gestures in the L2 data.
Figure 6.23. Gesture outlining the inanimate entity

Repetitive tracing is rarely observed. As the speaker mentions the jar for the first time in the narrative, the two hands come down in the gesture space in parallel. There is a post-stroke hold until the correct spatial particle is uttered. During the self-repair, the hands are kept in the same position. The mention of correct particle ni (‘at’) is accompanied by a superimposed beat.

6.5.2.2 The main characters’ fall into a pond

The following examples show the gestures accompanying the introduction of the water/pond. The speaker in Figure 6.24a moves both hands downwards as the inanimate referent is introduced. The hand goes back to the resting position when the directional expression ni (‘into’) is uttered. The speaker in Figure 6.24b begins to extend his left arm toward the lower gesture space with the palm facing up as the inanimate referent is introduced into the narrative.

Figures 6.24a. Gesture accompanying the introduction of the pond(river)

Figures 6.24b. Gesture accompanying the introduction of the pond
The full extension of the arm synchronizes with the particle no (‘genitive particle’) and is held until the spatial expression, naka de (‘in’), is uttered. The speaker changes his open hand to pointing as the frog (named Ms. Midori) is mentioned (not shown here). In Figure 6.24a and 24b, both gestures accompany the mentions of a new referent and a spatial expression. Note also that the gestures do not depict the outline of the entity.

In Figure 6.25a, the single-handed gesture synchronizes with the inanimate referent mizu (‘water’) and is held in the same position while the directional particle ni (‘to’) is uttered. In his L1 Dutch narrative, the speaker mentions that the deer throws the boy and the dog into the water. The introduction of het water (‘water’) is accompanied by a gesture depicting a movement (shown again as Figure 6.25b). In neither L1 or L2 does the speaker depict the objects that constitute the scene where the action takes place as in L1 Japanese.

Figure 6.25a. Gesture accompanying the introduction of the river

Figure 6.25b. Gesture accompanying the introduction of the river

6.5.2.3 Discovery of the frog behind a tree trunk

Figure 6.26 and 6.27 are examples of gestural marking of the introduction of the tree trunk in L2. In the examples, the newly introduced inanimate referent assumes non-subject role in speech, succeeded by the spatial expression, no ushiro (Genitive marker +’behind’). In Figure 6.26, the speaker encounters a problem in expressing ‘a tree trunk’. His left hand is first placed mid-air facing down accompanying ‘but lastly’ in
speech. During a relatively long pause that follows, his hand is held in the same position, then the speaker tut-tuts, flips his hand, and eventually puts his hand down (not shown here).

<table>
<thead>
<tr>
<th>Scene</th>
<th>Signification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L1: daked saigo wa // (laugh)shindeita</td>
</tr>
<tr>
<td>2</td>
<td>L1: but end TOP// (laugh) die-ASP:PAST</td>
</tr>
<tr>
<td>2</td>
<td>[ki] no (laugh) ushiro ni</td>
</tr>
<tr>
<td>2</td>
<td>[tree] ACC (laugh) behind DAT</td>
</tr>
</tbody>
</table>

kaeru to kaeru no kodomo to uma*(tsuma) o mitsukemashita
frog and frog GEN children and horse* (wife) ACC find:PAST

But at the end, // (laugh) behind a dead tree, (laugh) (σ) found the frog, the frog’s children and the frog’s horse* (wife).

**Figure 6.26.** Gesture accompanying the introduction of the *tree trunk*

This phenomenon of the gesturing hand being temporarily held in mid-air during a problem in speech production has been noted about gesture in L1 (Kita 1993; Mayberry & Jaques 2000). The speaker laughs slightly and introduces the inanimate referent in speech as *shideita ki*, literally translated as ‘dead tree’, although such expression does not exist in Japanese. The introduction of the referent is accompanied by a two-handed gesture depicting a trunk of a tree. Interestingly, the speaker depicts ‘tree’ by moving the hands vertically, unlike the tree trunk shown in the original picture book (Figure 6.26:1). The next gesture indicating direction is produced during a short unfilled pause before the semantically corresponding expression is produced in speech (Figure 6.26:2).

The gesture in Figure 6.27 shares some similarity with that in Figure 6.26. The introduction of the inanimate referent is marked by a two-handed gesture (Figure 6.27:1). The hands move up to the position in mid-air, and they do not trace the outline of the entity. The gesture is followed by another gesture which accompanies the spatial expression *ushiro* (‘behind’). Although the speaker introduces the *tree trunk* as in ‘behind the tree trunk’ in both L1 and L2 (see Figure 6.12 for the L1 counterpart), due to the word-order of Japanese, the new referent is introduced before the spatial expression.
1 L9: [sagashimashita eto ookii ki no]  
2 L9:[ search-PAST  INJ big tree GEN]  
1 L9: [ushiro ni] ototo no kaeru ga imashita  
2 [behind at] brother GEN frog NOM exist:PASS

(he) searched. Well behind a big tree, there was my brother’s frog

Figure 6.27a. Gesture accompanying the introduction of the tree trunk in L2

en dan [kijiken ze achter een stronk]  
and then they look behind a tree trunk

Figure 6.27b. Gesture accompanying the introduction of the tree trunk in L1

As if to mirror the difference in speech, the speaker’s gestural marking in L2 is different from its counterpart in L1 Dutch, where one gesture overlaps with both the spatial expression and the mention of the referent. At the same time, the gesture in Figure 6.27a is not target-like either. Unlike the gestures made by the Japanese native speakers where the post-stroke hold, the ‘place holder’, overlaps with the spatial expression in speech (see Chapter 6.8:1), here, when the gesture accompanies the spatial expression in speech, the right hand is already back in the resting position (shown here again as Figure 6.27b).

6.6 Summary of the bi-modal inanimate reference introduction in L2

This section reported on the results of analyses of the introduction of inanimate referents in L2 speech and gesture production. The analyses suggest that with respect to the local newness marking, the learners do not use any specific linguistic means. The analyses of global marking of inanimate reference introduction shows that the learners basically apply their SL-based rhetorical style in introducing inanimate referents in the target language. Inanimate referents are mostly introduced in adpositional phrases in VPs. As in L1 Dutch, they are hardly ever foregrounded in existential or presentative constructions. However, there is no reason why learners
should not use existential or presentative constructions, which are not particularly difficult to formulate. In fact, learners do use existential constructions when they introduce animate characters in narrative (see Chapter 4).

The quantitative analyses of the gestural marking of inanimate reference introduction indicate that learners may gesture more frequently in L2 than in their L1, in parallel with the results obtained for the introduction of animate referents. No quantitative difference is observed between L1 and L2 Japanese. However, as if to mirror the tendency in speech, learners’ co-speech gestures share more qualitative similarities with their L1 pattern than the norm of the native speakers of the TL. The learners in the present study basically use two types of gestures accompanying the introduction of inanimate referents. They produce gestures describing the entity iconically on the mention of referent in speech, in particular when the form of an inanimate referent is being attended to. However, in addition, the learners maintain the seemingly SL-based pattern of producing gesture indicating a direction (Path information) which mark with the newly introduced inanimate referents (Ground information), something that Japanese native speakers never do even when they introduce an inanimate referent in an adpositional phrase in the VP. It is as if the learners are gesturally attending to the locative/directional distinction while the Japanese particle is neutral to such a distinction. Furthermore, from a view of temporal synchronization, the learners seem to maintain the SL-norm by producing gestures which accompany the mention of a referent and a particle. They rarely overlap with the mention of the verb, unlike the TL norm. Thus, although the results suggest that learners seem to map their SL-based organization of information onto the TL narrative in a straightforward manner, the data reveal that the picture is slightly more complex.

The intricate relationship between two modes of expressions is revealed when a straightforward mapping from SL to TL is constrained by the grammar of the target language. As has been mentioned in passing, Dutch learners introduce the tree trunk in an adpositional phrase in the VP in L2 as well as in L1. However, in Dutch, the spatial preposition precedes the inanimate referent, as in achter een boomstam (‘behind a tree trunk’), whereas the word-order is opposite in Japanese, as in ki no ushiro ni (‘behind a tree’). In addition, the spatial expression in Japanese requires a relatively complex operation where learners need to combine the inanimate referent with an accusative, no, a spatial noun, ushiro, and a dative particle, ni. The opposite word-order and the choice of words prevent learners from making a straightforward mapping from L1 to L2 and they are forced to make some adjustment in speech. This adjustment is reflected in gesture. Whereas in L1 Dutch, the speakers typically produce one gesture accompanying a preposition and an inanimate referent, they produce two separate gestures in L2. The contrasting order of reference and spatial expressions between the SL and TL might have highlighted the inanimate referent in the speaker’s mind, which may be reflected in the production of a gesture. The other interpretation is that because the spatial expression is rather difficult for the learners in the current study, as evidenced by the number of pauses, they may have treated the ‘tree’ and ‘behind’ as separate ideas. Accordingly, two separate gestures may have been produced. At the moment, it is not clear to the researcher why separate gestures are produced.
6.7 Linguistic tracking of inanimate referents in L1 Dutch and Japanese

As reviewed in Chapter 1, it has been documented in the literature that introduced inanimate referents are less likely than animate referents to assume subject role in the following clauses. Thus, ‘tracking’ is here analysed differently than was the case for animate referent tracking. With respect to the analysis of inanimate referents, ‘tracking’ is redefined as follows: the second mention of the referent in the immediately succeeding clause and any mention of the referent afterwards. We have tallied the frequency of inanimate referent tracking in speech in L1 Dutch and Japanese. There are a total of 180 cases of tracked inanimate referents in L1 narratives: 59 in L1 Dutch and 121 in L1 Japanese.

Table 6.7 shows the distribution of the forms used for tracking inanimate referents in L1. In Dutch, NPs consist of nouns with definite articles or with demonstratives. Demonstrative locatives er or daar are also used to track referents. In Japanese, NPs consist of bare nouns and nouns with demonstratives. The demonstrative locatives, koko or soko (‘here’ and ‘there’) also used in the Japanese narratives. In addition, the use of demonstratives and the combination of demonstratives and directional expressions such as sono ushiro (behind that) are used to track referents.

Table 6.7 shows that NPs are the most frequent forms used to track inanimate referents in both L1 Dutch and Japanese. In addition, the Dutch speakers also use demonstrative locatives like daar (‘there’) as referential forms to track referents. However, no use of demonstratives such as dat or die (‘that’) is observed. In contrast, although extremely low in frequency, Japanese speakers may use the demonstratives sore (‘that’) as referential forms to track inanimate referents. In other words, the Dutch speakers refer to the pre-introduced inanimate referents as a place whereas the Japanese speakers refer to them as both a place and an object. In the following, we will present some examples from the data.

<table>
<thead>
<tr>
<th></th>
<th>definite</th>
<th>demonstrative</th>
<th>demonstrative</th>
<th>demonstrative</th>
<th>demonstrative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>article +NP</td>
<td>locative</td>
<td>locative</td>
<td>+ spatial</td>
<td>expression</td>
</tr>
<tr>
<td>demonstrative</td>
<td>+ NP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bare NP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1 Dutch</td>
<td>37/59 (63%)</td>
<td>20/59 (34%)</td>
<td>2/59 (3%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>L1 Japanese</td>
<td>94/121 (77%)</td>
<td>17/121 (14%)</td>
<td>0 (0%)</td>
<td>2/121 (2%)</td>
<td>8/121 (7%)</td>
</tr>
</tbody>
</table>

In (20), the Dutch speaker uses a combination of a demonstrative and an NP to track the referent (shown by an arrow) in its second mention.

(20) en ziet een gat in een boom
→ kijk in dat gat
  and (he) sees a hole in a tree
  (he) looks in the hole
The speaker introduces *gat* (‘hole’) with an indefinite article. In the immediately following clause, the same inanimate referent is referred to again. A combination of an NP with a demonstrative is used to track the referent. In (21), the Japanese speaker repeats a bare NP when tracking the referent in its second mention (shown by an arrow).

(21) maruta mitai no ga yoko ni atta no ne  
    tree trunk like one NOM side DAT exist:PAST SE PP

→ de maruta no ura o mitara  
   then tree trunk GEN behind ACC see:COND
   *there was a tree trunk like thing on the side*
   *then when (he) looked behind the tree trunk*

However, the majority of the Japanese add the demonstrative *sono* (‘that’) in front of the noun to track an inanimate referent in its second mention as in (22) (shown by an arrow).

(22) ippon no ki no shita ni ana ga aite-ita node  
    one-CLS GEN tree GEN below DAT hole NOM open:TE-ASP:PAST so

→ sono ana o nozokikonde  
   that hole ACC peek-in:TE
   *there was a hole at the foot of on three, so
   (he) peeked in that hole*

On the other hand, both the Dutch and the Japanese speakers may use demonstrative locatives to track inanimate referents. In (23), the Dutch speaker introduces an inanimate referent *holletje* (‘hole’). In the succeeding clause, the referent is referred to with the locative expression *daar* (‘there’) (shown by an arrow). In (24), the Japanese speaker uses the demonstrative locative *soko* (‘there’) to refer to the shallow *river* introduced in the immediately preceding clause (shown by an arrow).

(23) En het jongetje ziet dan in een holletje in de grond  
→ maar daar komt dan een andere beestje uit waarschijnlijk een mol of zo
   *and the boy looks then in a hole in the ground
   *but (from) there, an another animal comes out, perhaps a mole or something like that*

(24) nanka asai kawa mitaina tokoro ga atte  
    INJ shallow river like place NOM exist:TE

→ soko made tsuretette  
   there until take:TE-go:TE
   *what, there is a shallow river like place, and
   (φ) take (φ) up till there*
On three occasions, the Japanese speakers refer to the pre-introduced inanimate referents with demonstratives as in (25) (shown by an arrow).

(25) shonen wa ana o mitsukete, tsuchi no naka ni ne  
    boy TOP hole ACC find:TE ground GEN inside DAT PP  
→ soko o sagasootoshita no ne  
    there ACC search-MOD-QT-do:PAST SE PP  
    *The boy found a hole, in the ground, you see, and*  
    (he) tried to search that, you see

The Japanese speaker in (25) uses a demonstrative soko (‘that’) to refer to the newly introduced hole in the succeeding clause.

There were two occurrences of combinations of the demonstrative locative daar (‘there’) and spatial expressions in the Dutch narrative in the form of daarachter (‘behindthere’) (shown by an arrow).

(26) Dus Jan die gaat eh die kruipt eh naar een boomstam  
→ want daarachter hoort ‘ie het geluid  
    so Jan he went eh he sneaked up towards a tree trunk  
    because he heard noise behind there

In L1 Japanese, spatial expressions such asoku (‘behind’), shita (‘below’), naka (‘inside’) are used in combination with demonstrative sono (‘that’) as referring forms to track inanimate referents (shown by an arrow). Observe (27):

(27) koo iwa ga atte  
    in this way rock NOM exist:TE  
→ sono ushiro wa mori na no  
    that behind TOP forest COP SE  
    *there is a rock like this, and*  
    behind that is a forest, you know

The speaker in (27) introduces the iwa (‘rock’) with an existential expression. In the immediately following clause, the referent is anaphorically referred to with a demonstrative expression sono (‘that’). The spatial expression behind (‘ushiro’) succeeds the demonstrative (shown by an arrow).

### 6.8 Gestural tracking of inanimate referents in L1 Dutch and Japanese

We have tallied the number of occurrences of gestures tracking inanimate referents. There were a total of 36 such cases in L1 (5 in L1 Dutch and 31 in L1 Japanese). Due to the small number of gestures in L1 Dutch, statistical analysis was not performed.
The referent that was most frequently tracked by gesture in L1 Dutch is the jar. After its introduction in the early stages of the narrative, the referent is often tracked when the speaker mentions the scene where the dog’s head is stuck in the jar. The speaker in Figure 6.28 does not produce a gesture when he introduces the jar. However, a few clauses later when the speaker mentions the glass jar, a two-handed gesture tracks the inanimate referent (Figure 6.28:1). After the depiction, the hands go back to the resting position (Figure 6.28:2).

1 en op dat moment gaat die hond kijken in [die glazen pot]
1 and at that moment, the dog looks in the glass jar

3 [en die komt met z’n kop vast in die pot] zitten
3 and he ends up having his head stuck in the jar

Figure 6.28. Gestural tracking of the inanimate referent

However, in the immediately following clause, a gesture accompanies almost the entire clause. His left fingers form the same shape as in the previous gesture. The left hand seems to depict the jar. The right hand moves into the space made between the thumb and the fingers in the left hand. The move is superimposed by multiple beats as if depicting the dog’s head stuck in the jar (Figure 6.28:3)

Some Japanese speakers use almost identical gestures when tracking the same inanimate referents. For instance, the introduction of the jar in L1 Japanese is accompanied by a gesture tracing the outline of the referent (Figure 6.29:1). The repetitive tracing is performed with a slightly different angle as if to highlight the three-dimensional aspect of the referent. When the jar is mentioned twelve clauses later, the speaker performs a gesture that is almost identical to the one that accompanied the introduction of the referent (Figure 6.29:2). Ten clauses afterwards, the jar is mentioned, with the speaker stating that the jar is broken. The mention of the
glass *jar* is accompanied by a gesture which again is similar to the ones that have previously been associated with the same referent (Figure 6.29:3).

![Gesture images](image)

1 [kingyobachi mitaina kabin, kabin ja-nai na kongurai no garasu no naka ni] kaeru o katte-ta no
1 [aquarium like vase, vase COP-NGT PP like this GEN glass GEN inside DAT] frog ACC keep:PAST
N
(that boy) kept a frog in an aquarium-like vase, not a vase, a glass (jar) about this big

![Gesture images](image)

2 inu wa sono [kaeru no i-ta garasu no kinyobachi] mitai no ni atama tsukkonde asondari shite
2 dog TOP that [frog GEN exist-PAST glass GEN aquarium] like thingDAT head put in-TE play like do;TE-ASP:TE
the dog is playing around doing things like putting his head inside the aquarium like glass thing where that frog was kept

![Gesture images](image)

3 ano [garasu no iremono] ga warechatta
3 well [glass GEN container] NOM break-ASP:PAST
well the glass container broke

Figure 6.29. Gestural introduction and tracking of the inanimate referent

The recurrence of some features of gestures as in Figures 6.28 and 6.29 has been called ‘catchments’ (McNeill 2000, McNeill et al. 2001). According to McNeill, ‘catchments’ are defined as the recurrence of gesture features over a stretch of discourse. It is recognized by “two or more gestures (not necessarily consecutive) with partially or fully recurring features of shape, movement, space, orientation, dynamics, etc” (McNeill et al. 2001: 11). McNeill maintains that ‘catchments’ indicate the cohesive linkages in the text where such gestures co-occur.
All the examples above have so far shown the gestural tracking of referents that occur a few clauses after the introduction. However, some of the newly introduced inanimate referents in L1 Japanese are tracked in the immediately following clauses in both speech and gesture. In Figure 6.30, the introduction of the swamp in speech is accompanied by a two-handed gesture (Figure 6.30:1). In the following clause, the speaker mentions the fall of the boy and the dog into the pond. The left hand is kept in the same position as a reference point representing the location, while the right hand moves downward depicting the fall (Figure 6.30:2). The asymmetrical two-handed gesture in Figure 6.30:2 represents two levels of information. The hold of the left hand, sustained in the same position with the same hand-shape as before, represents the change of information status of the swamp from new to old. This change parallels the choice of referential form in speech. The choice of the referential form for the swamp changes from a bare NP to a combination of a bare NP and a demonstrative sono (‘that’) in the second mention. In the meantime, the right hand represents the new information associated with the swamp. Thus, the gestures may visually capture the way the new and old information are linked together.

Figure 6.30. Gestural inanimate reference tracking

The speaker in Figure 6.31 introduces the tree trunk via an existential construction. The introduction of the inanimate referent is accompanied by a two-handed gesture tracing the outline of the entity (Figure 6.31:1). In the immediately succeeding clause, the inanimate referent is tracked in both speech and gesture. The referent is tracked in speech with a demonstrative sono (‘that’) followed by a directional expressionoku no hoo (‘from behind’). The expression is accompanied by a gesture where the right index finger points away from the speaker while the left hand is sustained in the position (Figure 6.31:2). Although the identity of the demonstrative sono (‘that’) is not clearly specified in speech, the long hold (place holder) may clarify the identity of the demonstrative as the tree trunk.
In summary, the cross-linguistic analyses on linguistic and gestural tracking of inanimate referents show that speakers of both Dutch and Japanese favour NPs as the choice of the referential form. The attenuated forms used for tracking referents show some crosslinguistic variation. Although their occurrence is limited, the Dutch speakers may use the grammaticized expressions such as daarakchter (‘therebehind’), which is a combination of a demonstrative locative and a spatial expression. On the other hand, the Japanese speakers use demonstrative, sore (‘that’), sometimes with spatial expressions as in sono oku (‘behind that’). The use of demonstratives by the Japanese speakers seems to reflect their attention to the inanimate referent as an object rather than a location (cf. Carroll & von Stutterheim 2003).

The analyses of gesture show that tracked inanimate referents are accompanied by gestures which share some physical features with the gesture that was previously associated with the referent. As in the tracking of animate referents, ‘catchments’ are frequently observed in the tracking of inanimate referents. In addition, the analyses show that the Japanese speakers may chain the new and old information in one gesture by using a ‘place holder’. Such gestures were not observed in L1 Dutch.

6.9 Linguistic tracking of inanimate referents in L2 Japanese

We have tallied the number of tracked inanimate referents in speech in L2 Japanese. There are a total of 42 such instances. Table 6.8 shows the results. For the purpose of comparison, the results of L1 Dutch and Japanese are also presented. The results show that the L2 speakers do not use any attenuated forms in tracking inanimate referents in speech. As with the tracking of animate referents, they show a preference for NPs over attenuated forms.
Table 6.8. Frequency of referential forms used to track inanimate referents

<table>
<thead>
<tr>
<th>maintained inanimate referents</th>
<th>definite article +NP</th>
<th>demonstrative+ NP</th>
<th>demonstrative locative</th>
<th>demonstrative locative +spatial expression</th>
<th>demonstrative expression +spatial</th>
</tr>
</thead>
<tbody>
<tr>
<td>bare NP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1 Dutch</td>
<td>37/59</td>
<td>63%</td>
<td>20/59</td>
<td>34%</td>
<td>2/59 3%</td>
</tr>
<tr>
<td>L1 Japanese</td>
<td>94/121</td>
<td>77%</td>
<td>17/121</td>
<td>14%</td>
<td>0/121 0%</td>
</tr>
<tr>
<td>L2 Japanese</td>
<td>42/42</td>
<td>100%</td>
<td>0/42</td>
<td>0%</td>
<td>0/42 0%</td>
</tr>
</tbody>
</table>

The qualitative analysis of inanimate reference tracking by the learners shows, firstly, that one of the most commonly tracked referent is the *jar*. After its introduction, the referent is mentioned again in the narratives when the speaker describes the *dog’s head getting stuck*. This is similar to L1 Dutch and Japanese. Following is an example of tracking of the referent observed in L2 speech.

(28) kaeru o garasu no koppu (NS: bin) bin ni *haitte (ire-te)
    frog ACC glass GEN cup (NS:jar) jar to enter:TE (put in:TE)
    *(he) *enters (puts) the frog in a jar, and

(29) inu wa garasu no bin ni haitte
    dog TOP glass GEN jar to enter:TE
    *the dog enters the jar

Some tracked referents are placed in initial position of the following clause, as in L1 Japanese:

(30) sono doobutsu wa otoko no ko to inu to isshoni mizuumi ni otoshimasu.
    that animal TOP male GEN child and dog with together lake to drop:NONPAST

    sono mizuumi ni kaeru ga arimasu.
    That lake DAT frog NOM exist:NONPAST
    *That animal drops the boy and the dog together into the lake
    In that lake, there is the frog (lit: In that lake, the frog exists)

(31) sono doobutsu wa kodomo to inu to isshoni kawa ni *suteremasu (sutemasu)
    that animal TOP child and dog with together river to throw:NONPAST

    sono tokoro de kodomo wa kaeru no kazoku o mitsukemashita
    that place DAT child TOP frog GEN family ACC find:PAST

    *That animal throws away the child and the dog into the river
    At that place, the child found the frog’s family
In (30) and (31), the newly introduced inanimate referents are placed in initial position in the immediately following clauses. Thus, the learners are making a chain between the new referents of the last clause and the tracked referents in the next clause. This chaining is similar to the way the tracked inanimate referents are chained in consecutive clauses in L1 Japanese.

6.10 Gestural tracking of inanimate referents in L2 Japanese

There are a total of 11 gestures tracking inanimate referents in L2 Japanese. Due to the small number of the gestures and variation in the distribution, a statistical analysis has not been performed on their frequency. The following analysis will thus focus on qualitative aspects of these gestures.

In Figure 31, when the speaker introduces the jar, the mention of the referent is accompanied by a two-handed gesture tracing the outline of a small entity. The gesture indicates the jar (Figure 6.32:1). A few clauses later, the speaker describes the scene involving the dog’s head being stuck in the jar. The mention of the referent in speech is accompanied by a gesture where the left hand forms a shape as if a jar is being held (Figure 6.32:2).

Figure 6.32. Gestures accompanying the introduction and tracking of the inanimate referent

Figure 6.33 illustrates the recurring gesture features in the tracking of inanimate referents by a learner. A two-handed gesture depicting an entity accompanies the introduction of the jar (Figure 6.33:1). When the referent is mentioned again a few clauses later, the two hands depict the entity in a similar manner. When the speaker mentions naka (‘inside’), the right hand moves toward the left hand (Figure 6.33:2). In the meantime, the left hand is held in the same position. Thus, the use of a ‘place holder’ is observed.
The speaker in Figure 6.34 introduces *ishi* (‘rock’) in the VP. The mention of the referent is accompanied by a two-handed gesture which is followed by a right hand which moves upward with a zig-zag movement. The hand describes a climb by the animate character (Figure 6.34:2).

**Figure 6.34.** Gesture accompanying introduction of the *stone*

A few clauses later, the referent is tracked in speech. The tracking occurs while the learner tries to explain that there is something higher next to the *stone*. The mention of the referent is accompanied by a two-handed gesture which occurs in a similar gesture space as in its introduction (Figure 6.35:1). In the rest of the utterance, the left hand is held in the similar position (Figure 6.35:2, 3 & 4).
In summary, the analyses of the tracking of inanimate referents by L2 speakers of Japanese show that, like L1 Dutch and Japanese speakers, the learners may track inanimate referents in both speech and gesture, although the occurrence is limited. The reliance on NPs for reference tracking parallels the way the learners track animate referents in spoken discourse. The absence of the use of demonstratives like *sono* (‘that’) or *soko* (‘there’) may suggest the difficulty learners have in acquiring the active use of attenuated forms to refer to inanimate referents in narratives. However, it remains an empirical question with respect to whether learners with higher proficiency can use these attenuated referential forms. Nevertheless, it is worth noting that the analysis of speech shows that some learners use information chaining, often used by the Japanese natives but not allowed by the Dutch language. With respect to gestural reference tracking in L2, the number of occurrence in the data is too small to draw any decisive conclusion. However, some examples suggest that learners, as in L1 Dutch and Japanese, may use ‘catchments’ to create linkages between gestures, which may in tern help clarify the content of error-prone speech.

6.11 Discussion of bi-modal introduction and tracking in L1 and L2

This chapter reported on the results of analyses of bi-modal introduction and tracking of inanimate referents in L1 Dutch, Japanese and L2 Japanese. Unlike introduction and tracking of *animate* referents where linguistic and gestural marking of referents seems
to be governed by language-independent principles regarding informational flow and referential importance, the bi-modal introduction of inanimate referents in the data seem to reflect the cross-linguistic differences in packaging and filtering of the locative/directional information about inanimate referents in narratives. Dutch and Japanese speakers use different rhetorical ways to introduce inanimate referents and this difference is reflected in gesture.

In short, in L1 Dutch, information about Ground is mostly backgrounded in both speech and gesture, unless special attention is called for an entity. On the other hand, in L1 Japanese, Ground is frequently foregrounded in the two modes of expression. However, it is important to note that the cross-linguistic preferences are not based on any linguistic differences between the two groups. There is nothing in the Dutch grammar that prevents native Dutch speakers from using existential constructions to introduce inanimate referents. Alternatively, native Japanese speakers could as easily introduce all new referents in the adpositional phrases in the VP. However, they do not do so. In fact, some Japanese speakers self-repair their utterances and introduce inanimate referents in existentials. These cross-linguistic differences in bi-modal inanimatee reference introduction and tracking can best be explained as differences in ‘thinking for speaking’ (Slobin 1996) during narrative production between the native speakers of Dutch and Japanese.

Furthermore, because the two groups of speakers organize discourse differently, we speculated that accompanying gestures in L1 Dutch and L1 Japanese may differ at a level higher than a word or a sentence. In the following, we will provide a sample comparison of gestures accompanying a short stretch of discourse in L1 Dutch and Japanese. In order to depict the scene where the boy and the dog fall into the pond, the Dutch speaker in Figure 6.36 organizes his discourse around the actions. The attention to scene setting is minimal. As if to reflect the organization of discourse in speech, the accompanying gestures only capture the actions.

On the other hand, the Japanese speaker in Figure 6.37 organizes his discourse around both the setting up of the location and the depiction of the motion events. The accompanying gestures reflect the organization of the discourse. The gestures depict both the spatial relationship of the inanimate entities in the scene and the actions. Accordingly, the gestures seem more complex in nature than their Dutch counterparts, because the speaker moves between object viewpoint (O-VPT) and character viewpoint (C-VPT). For instance, the speaker first sets up the river with an O-VPT gesture (Figure 6.37:1) in the gesture space before depicting the animate characters’ fall by a C-VPT gesture (Figure 6.37:2). In the immediately following clause, the speaker produces an O-VPT gestures depicting the cliff and the location of the river (Figures 6.37:3 & 4), followed by a C-VPT gesture accompanying the repetitive information about the fall of the characters (Figure 6.37:5). It is as if the speaker takes different roles in creating the scene-setting and enacting the event. This pattern of ‘manual scene setting followed by S-OVT gesture’ is observed in L1 Japanese but rarely in L1 Dutch.
Figure 6.36. Gestures accompanying the tracking of inanimate referents in L1 Dutch narrative

1 En [het ren  çek  het rendier  smijt het  joochje in  het water]  en
   And the ren  ch, the reindeer throws the boy into the water and

2 het hondje [val]  ook in het water
   the dog also fell into the water

1 sono shika ga  sono otoko no ko  to inu o
   that deer nom that male gen child and dog acc

2 koo kawa  ni koo  nageotosu  wake
   in this way river dat this way throw-drop:nonpast

[etto gake tte iu hodo  no mono janainakedo
[INJ cliff QT say about gen thing COP:NEG-SE-but

1 koo  kawara  no]  [tokoro ni
1 in this way river bank gen]  [place to
that deer like this throws like this that boy and the dog well, not even like a cliff
to a river bank place, to a river

3 [de,  koo  chotto  koo  nattete
3 [then in this way a.little in this way become:TE-ASP-TE
(it) is a bit like this, like this, and

4 koko ga  kawa mitaina tokoro ne]
4 this NOM river like place, PP]
(lit: it has become like this) here is the river like place, you see
Furthermore, some of the ways that gestures capture the spatial relationship between the referents in L1 Japanese may share similarities with signs created by users of sign languages. For instance, Liddell (2000) has examples where an expression such as ‘The cat is on the fence’ is depicted by producing the signs for the fence, the cat and the hooked V classifier, which in sign languages has the meaning of ‘animal’ or ‘seated human’ (p. 351). After the sign for the fence is produced, one hand remains as a visible landmark while the sign for the cat is made. The physical relationship between the cat and the fence is shown by the physical relationship of the hand-shapes. No sign is made to show that the cat is ‘on’ the fence. In other words, the information is inferred by the physical relationship between the signs produced before and what is physically present now. This is similar to how the Japanese speaker describes the physical relationship of two inanimate referents by the gestures (Figure 6.37:3 and 4). The speaker does not provide any linguistic expression which describes the physical relationship between the cliff and the river. It is the gesture that links the words to the visibly available relationship between the two entities, where the left hand which represents the cliff is held high while the river is located much lower in the gesture space (Figure 6.37: 4). Because the data in the present study are limited, one should be cautious about how to interpret the similarities between the use of signs and gestures in the examples just mentioned. In fact, it is a field that requires further research in various aspects. Nevertheless, the implication is that a similar phenomenon may be observed in the use of signs and the speakers of Japanese, if we compare signs not just to speech but to the combination of speech and gesture.

As for L2, the results suggest that learners basically map their SL-based organization of discourse onto the TL when introducing inanimate referents in narratives. This interaction between SL and TL occurs not only at the level of linguistic but also gesture production. In short, the learners in this study seem to generalise their L1-based discourse organization in two modes of expressions. On the other hand, results also suggest that some L2 gestural markings of inanimate referent

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7 See Liddell (2003) for more discussion on this point.
introduction may be L2-specific, not being the copy of either the SL or TL-norm. Thus, the L2 bi-modal introduction reflects the interaction between SL and TL.

With respect to the present learners’ tendency to produce gestures depicting locative/directional information, one may claim that because information about the inanimate referents is often not crucial to the development of the main storyline, in order to keep production as economical as possible, learners with limited proficiency, such as the ones in the present study, may choose to focus on the actions, and pay less attention to the scene setting. However, this interpretation is unlikely, because if the learners chose to be economical, they could avoid reference to inanimate entities altogether. However, they do not do so. Alternatively, the fact that the gesture stroke of L2 gestures frequently synchronize with the introduction of inanimate referents may be interpreted that the learners have acquired, to some extent, the gestural norm of the TL. This is a possible interpretation of the data. However, the fact that the learners mostly complete their gestures with the production of a particle in speech and that their gestures rarely overlap with verbs seem to suggest strongly that the learners’ focus of attention is on locative/directional information.

Gestural reference tracking in L1 and L2 show that speakers, irrespective of their language, seem to utilize ‘catchments’ to create anaphoric linkages between gestures. The small number of bi-modal reference tracking in L2 suggests that L2 narratives differ mostly in the amount of detailed information about inanimate referents. Nevertheless, although much less frequent than in L1 Dutch or Japanese, the results in L2 suggest that learners attend to the global structure of discourse as well as to the construction of utterances at the local level.