

Multimodal encoding of motion events in French and Dutch as L1 and L2

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Can Motion Event Construal be Taught or Restructured?
Evidence from Bilinguals and L2 Learners

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Introduction



Introduction

Motion events in speech

- **Verb-framed** vs. **Satellite-framed** languages (Talmy 2000)

French vs. Dutch

e.g. L'oiseau rentre dans la cage en volant.

De vogel vliegt de kooi binnen.

= The bird enters the cage flyings vs. The bird flew into the cage.

- Use of **posture verbs** in Dutch vs. **Neutral verbs** in French (Lemmens 2002)

e.g. La bouteille est sur la table vs. De fles staat op tafel.

= The bottle is (standing) on the table.



The typological differences between satellite-framed and verb-framed languages are **reflected** in gestures (Kita & Özyürek 2003, McNeill 2005, 2006, and Brown & Chen 2013)



Gestures

Gestures are part of the **communication process** (i.a. McNeill 1985, 2005, Kendon 1980, 1994)

Gestures play a role in both speech **production** and speech **perception** (McNeill 1985, Alibali et al. 2000, Gullberg 2010, Graham & Argyle 1975, Rogers 1978 & Riseborough 1981 mentioned in Kendon 1994, Cassell et al. 1998)

Gestures have both **universal** and **language-specific** characteristics (Kita & Özyürek 2003, McNeill 2005, 2006 and Brown & Chen 2013)



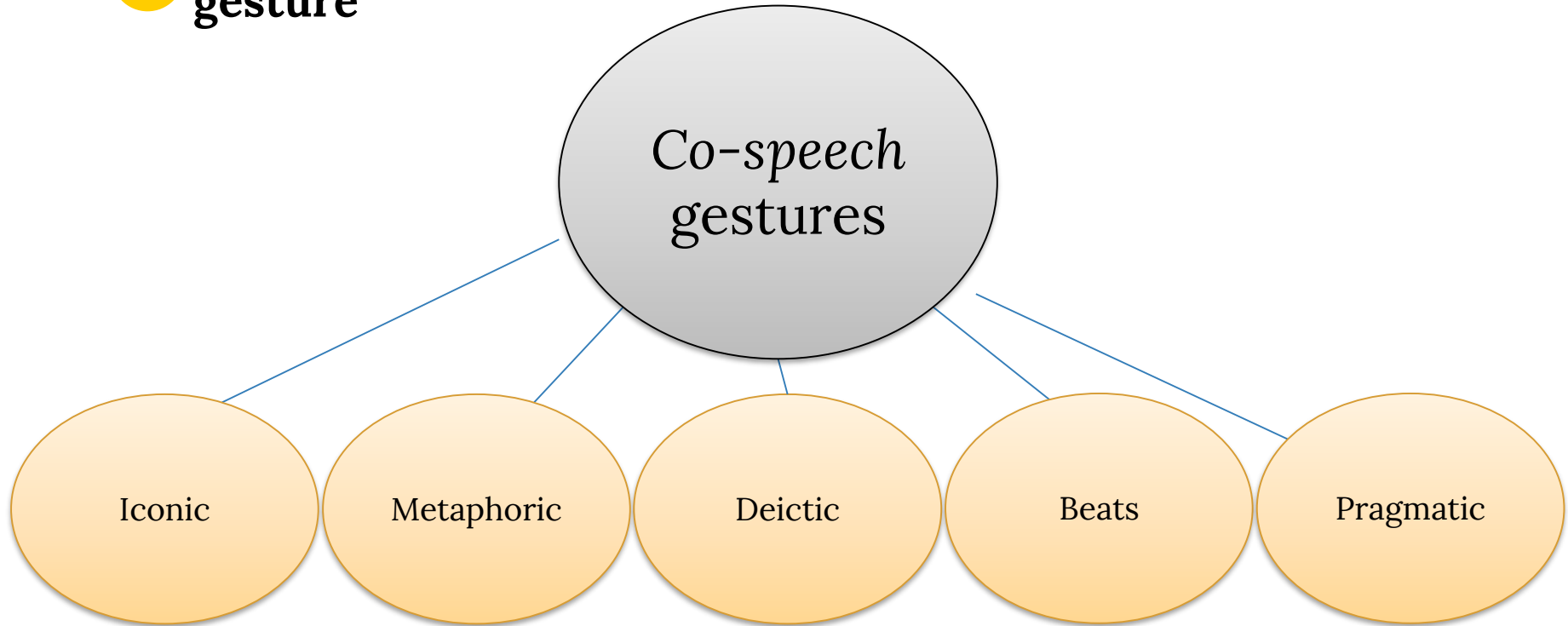
Outline of the presentation

1. Theoretical background
2. Method
3. Results & discussion
4. Conclusion
5. Further Research & PhD project

1.

Theoretical background

1.2. **The dimensions within a co-speech gesture**



1.3.

Research questions

1. Which **aspects** (path/manner) do **native speakers of French and Dutch** and **French-speaking learners of Dutch** encode in their **speech** (verb and satellites)?
2. Which **dimensions** (cf. iconic, metaphoric, beats, deictic and pragmatic) are present in the **gestures** of **native speakers of French and Dutch** and of **French-speaking learners of Dutch**?
3. Which **aspects** (path/manner) do **native speakers of French and Dutch** and **French-speaking learners of Dutch** encode in their iconic gestures?
4. Are the different groups' gestures **complementary** to speech?
5. Do learners tend to have a **similar behaviour** to the Dutch native speakers'? Or do they tend to keep behaving as in their mother tongue when they describe motion events in Dutch?
→ **Can motion event construal be taught or restructured?**

2

Method

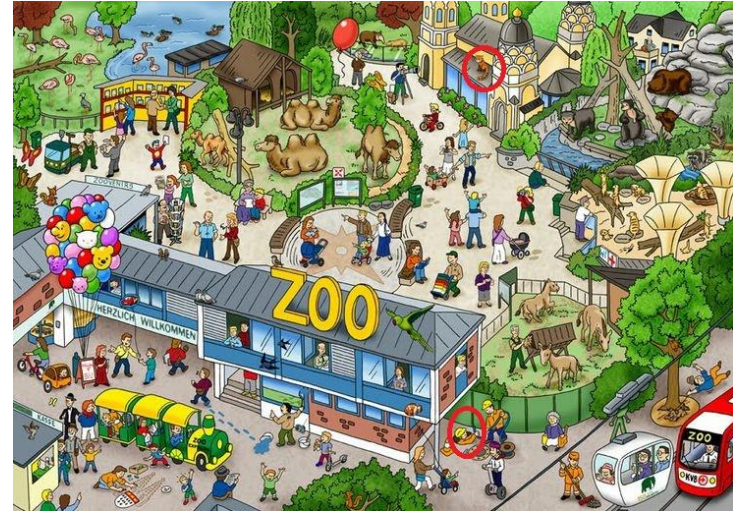
2.1.

Tasks

- XP I: Retelling of video fragments



- XP II: Description of images





2.2.

Participants

- Dutch-speaking control group
 - 4 students and 2 assistants (KULeuven)
- French-speaking control group
 - 12 students (ULiège)
- Experimental group
 - 12 students (Germanic Languages & Literature, ULiège)

2.3.

Data analysis

ELAN 5.7-FX - MTA.eaf

Fichier Edition Annotation Acjreur Type Rechercher Affichage Options Fenêtre Aide

Grille Texte Sous-titres Lexique Commentaires Recognizers Métadonnées

Volume: 100

MTA.mp4

Mute Solo

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Mode de sélection Mode de boucle

00:05:20.000 00:05:25.000 00:05:30.000 00:05:35.000 00:05:40.000 00:05:45.000 00:05:50.000

default [1] Euh dus de leeuw ging door naar zijn kot maar de kat slaat daar ook in. En de leeuw vindt de kat niet leuk

Deel van het experiment [1] FRAGMENT4_DEEL2

Proposite [4] Euh dus de leeuw ging do maar de En de leeuw vindt de kat en brengt die als 'revenge' eig met kroko

Cx [4] beweging BLC handeling caused motion ellipsis

Werkwoord [4] doorgaan staan pakken brengen /

Type werkwoord [4] beweging positiew handeling handeling /

Aspect in het werkwoord [4] PAD MANIER MANIER PAD /

Ground [4] ja ja nee ja ja

Lemma ground [4] naar zijn kot daarin naar een... een put water in

Bijwoordelijke bepaling/Complement [4] ja ja nee ja ja

Lemma bijwoordelijke bepaling

ELAN 5.7-FX - MTA.eaf

Fichier Edition Annotation Acjreur Type Rechercher Affichage Options Fenêtre Aide

Grille Texte Sous-titres Lexique Commentaires Recognizers Métadonnées Contrôles

Volume: 100

MTA.mp4

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Mode de sélection Mode de boucle

00:05:20.000 00:05:25.000 00:05:30.000 00:05:35.000 00:05:40.000 00:05:45.000 00:05:50.000

Ground [4] naar zijn kot daarin naar een... een put water in

Lemma ground [4] ja ja nee ja ja

Bijwoordelijke bepaling/Complement [4] naar zijn kot daarin naar een... een put water in

Lemma bijwoordelijke bepaling [4] BESTEMMING LOCATIE BESTEMMING LOCATIE

Aspect in de bijwoordelijke bepaling [4] nee nee ja ja nee

Patens/Recipients [4] de kat die (de kat)

Lemma patens/recipients [4] geba | geba | g | ge | geb | gebaar | geb | gebaar | gebaar | geba

Gebaar [4] ICO BEAT B IC ICO PR ICO ICO MET

Dimensie in het gebaar [4] BEST |atb| MA| MANIER |afbeeld| APPRO- af

Aspect in het gebaar [4] BBG | an | W | WWG + E | BBG OG

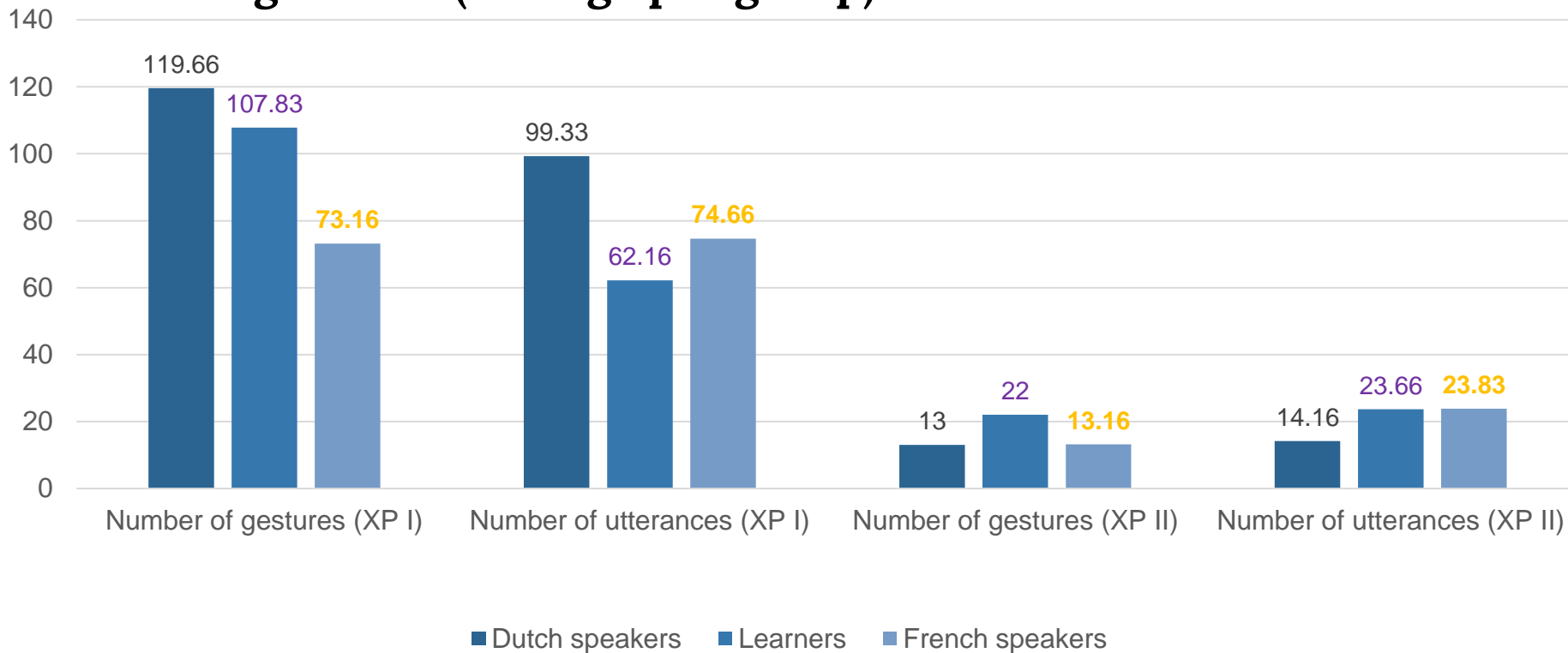
Speech vs. gebaren [4]

3

Results & Discussion

3.1.

3.1. Number of utterances and gestures (average per group)

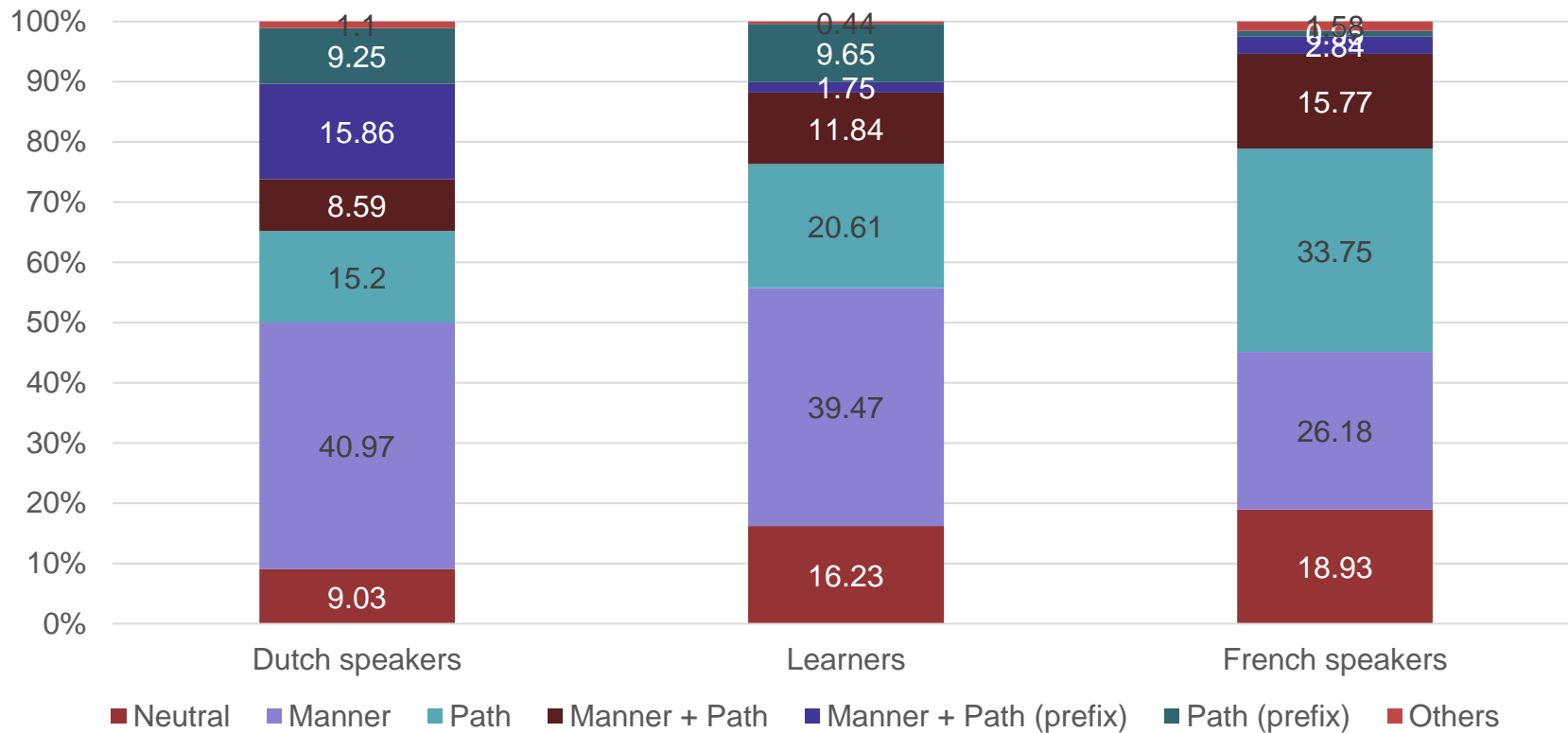


3.2.

The expression of motion events in speech

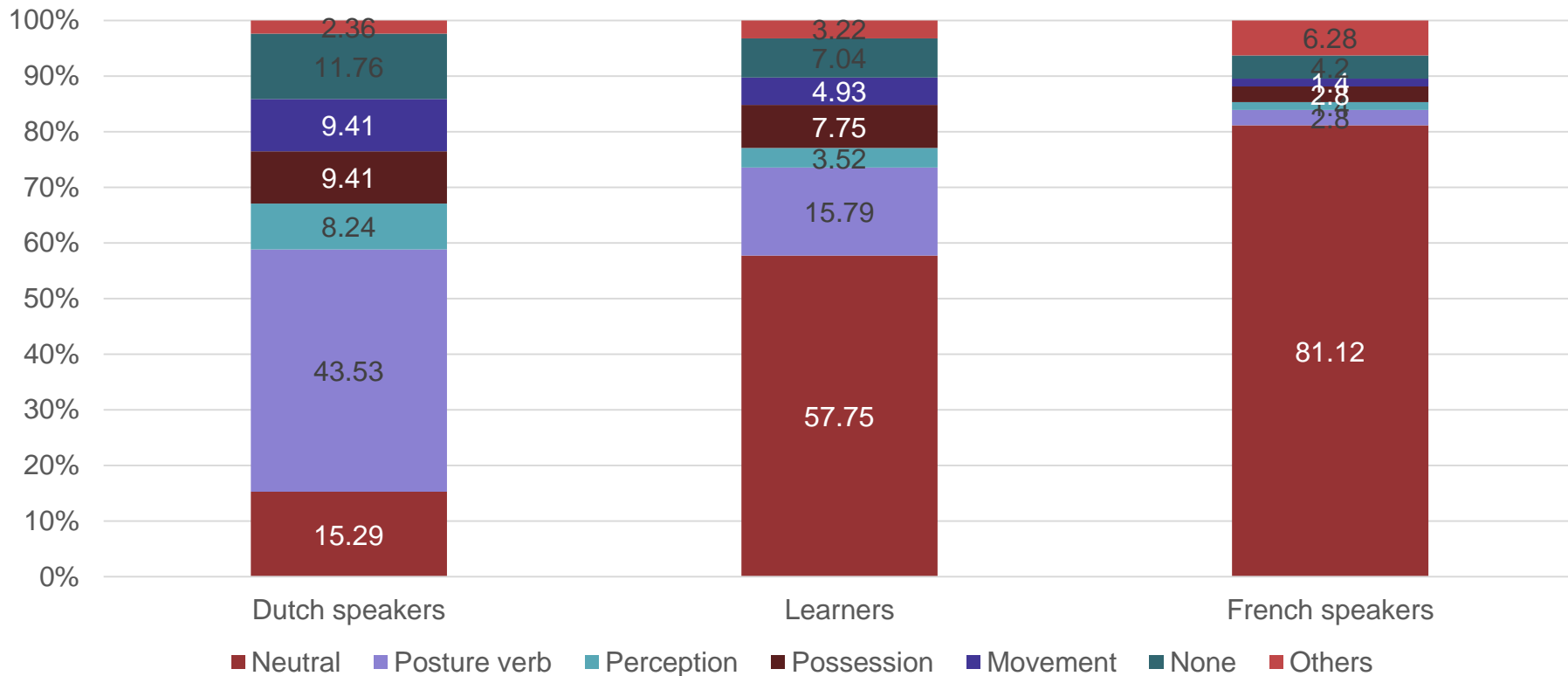
3.2.1.

Aspects in the verbs in XP I



3.2.2.

3.2. Types of verbs in XP II





Examples

Dutch native speakers

‘Tweety **loopt weg, uit de kooi**’ (MTC, FRAGMENT1, DEEL1)

‘Achter die plint **staat er** een bank waar twee jongens op **staan** en tussen die jongens **staat** iets.’ (MTE, PRENT7, OBJECT2)

French native speakers

‘[...] sauf qu'**il y a** un lion sur le bateau et que du coup le lion lui fait rugit dessus donc il **quitte le bateau en courant**’ (NT2D, FRAGMENT4, DEEL1)

‘Alors donc l'objet **est** euh près de l'entrée du zoo euh il **est** aussi tout près de l'enclos des... des chevaux.’ (NT2K, PRENT3, OBJECT2)

French-speaking learners of Dutch

‘Hij **loopt** euh **heen en terug langs...langs euh** ja ik weet het niet. Dat is dicht bij het gebouw en euh... Ha ik herinner me niet of hij ook **weggaat** of dat Titi opnieuw aan het **vliegen** is omdat Grosminet weg is ja.’ (NT2E, FRAGMENT3)

‘Dus je **hebt** een beeld met veel kinderen en euh euh aan de achterkant van het beeld **zijn er twee kinderen die kledingen dragen**’ (NT2G, PRENT7, OBJECT1)

3.2.3. The expression of motion events in speech

- Aspects in native speakers' speech (RQ1)

Differences between the verb-framed and satellite-framed languages reflected in the oral productions of the control groups

→ // **Talmy (2000b), Pourcel & Kopecka (2005), Kopecka (2006), Lemmens & Slobin (2008)**

- Differences between French and Dutch in the expression of static motion events: present here as well

→ // **Lemmens (2002)**

Aspects in learners' speech (RQs 1 & 5)

- The learners are acquiring the structures used in Dutch to describe dynamic motion events (i.e. they tend to encode manner in the verb similarly to native speakers, but they still underuse verbs in which manner is encoded in the stem and path in a prefix in comparison to Dutch native speakers)
- The acquisition of the structures used in Dutch to describe static motion events (i.e. posture verbs) seems difficult. Learners still overuse neutral verb and underuse the posture verbs.
But possession verbs*.

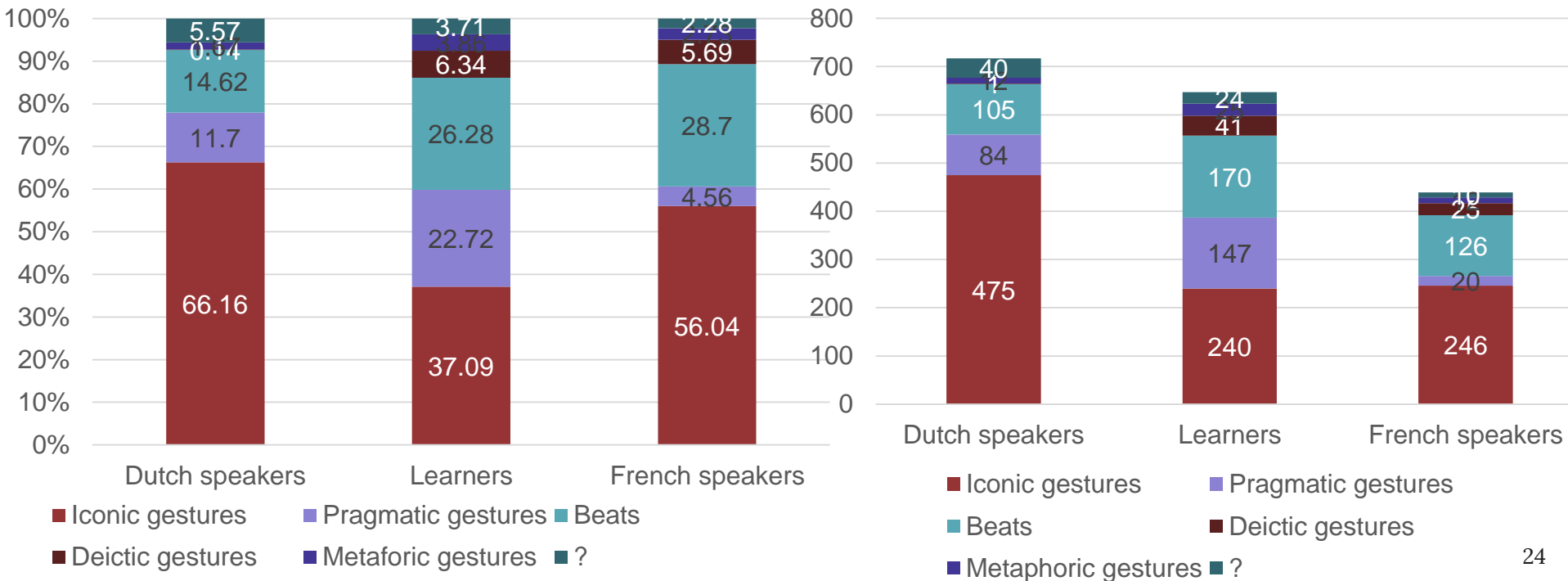
→ // **Lemmens & Perrez (2010, 2012, 2018*)**

3.3.

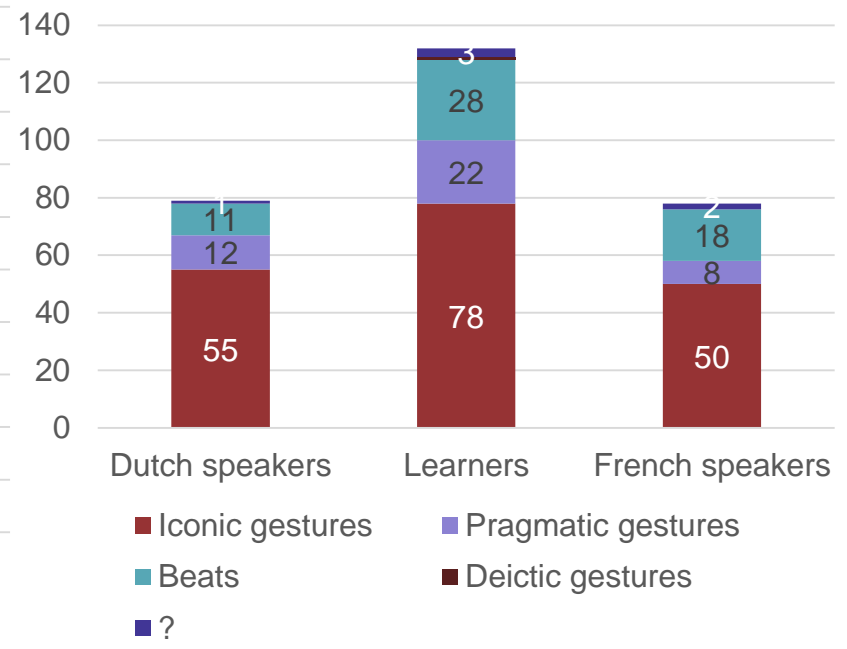
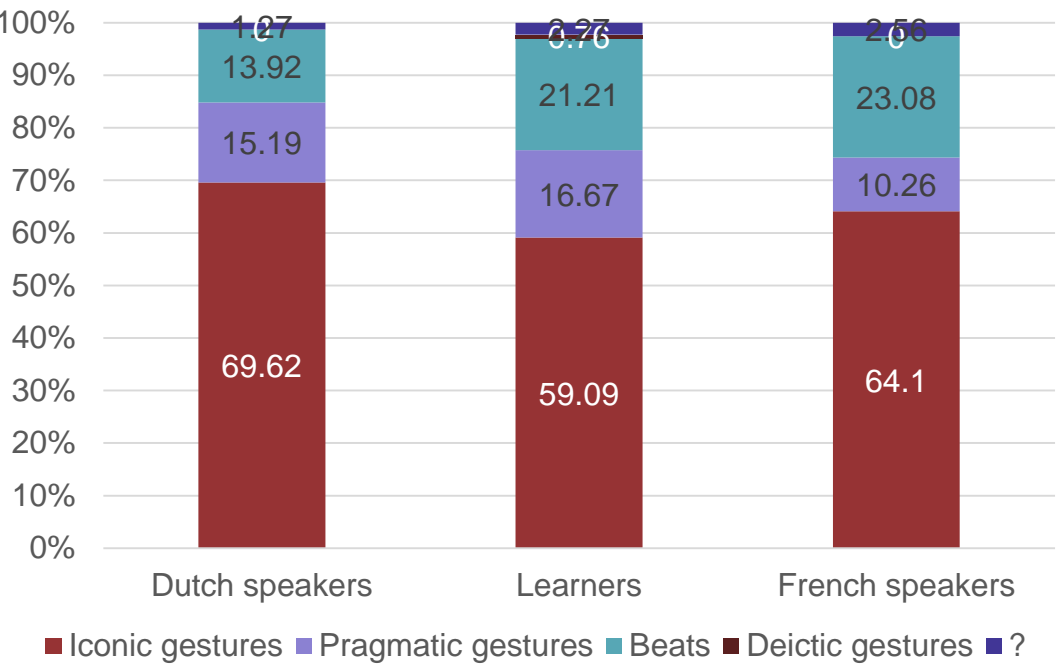
The expression of motion events in co- speech gestures

3.3.1.

Dimensions in gestures in XP I

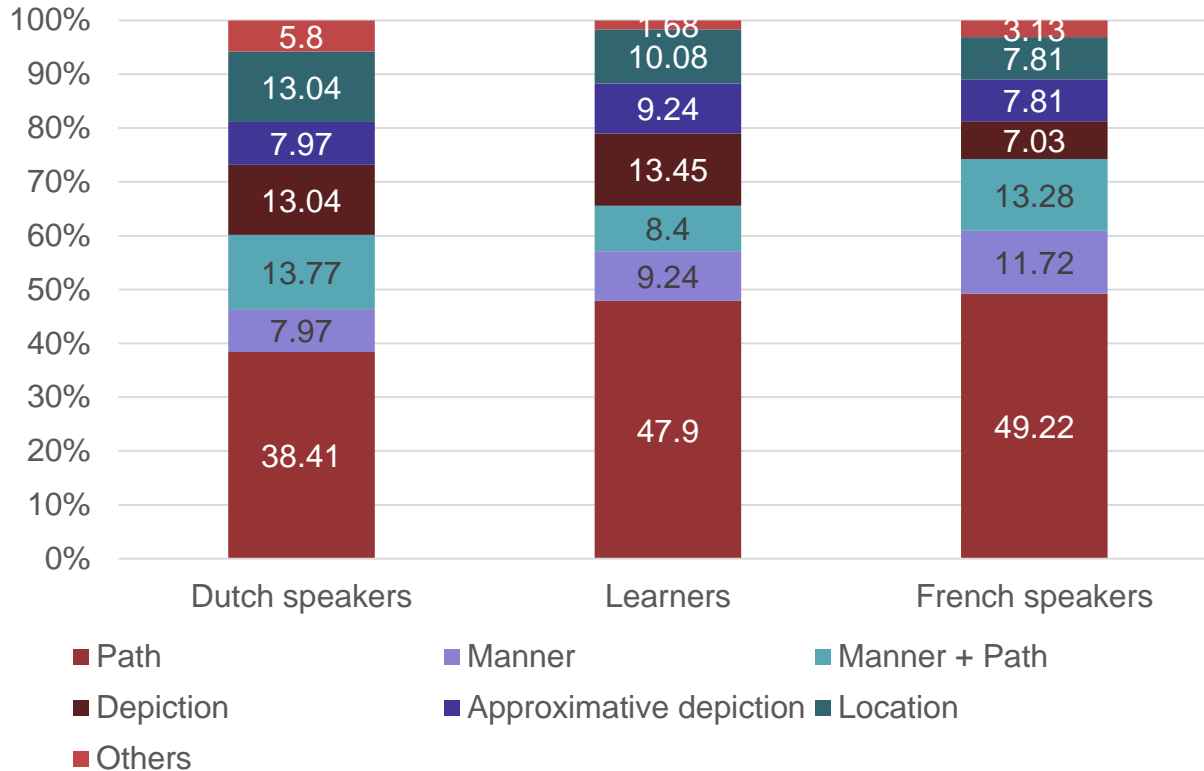


3.3.2. **Dimensions in gestures in XP II**



3.3.3.

Aspects in the iconic gestures in XP I



3.3.4. The expression of motion events in gestures

Dimensions in native speakers' gestures (RQ2)

- Mainly **iconic gestures**

Dimensions in learners' gestures (RQ2):

- **Iconic gestures**
- Many **non-substantive gestures** (pragmatic and beats)

Aspects in native speakers' gestures (RQ3):

- **Path: more often encoded by French speakers** (// Gullberg 2008 en 2011) than by Dutch speakers
- Manner: no big difference between the two groups
- Depiction

Aspects learners' gestures (RQs 3 & 5):

- **Path: rather similar to French** (// Gullberg 2009)
- Manner: between the two groups native speakers
- Depiction



Example: Manner + Path





Example: Manner + Path

‘[...] Daarvoor neemt hij een euh een **stuk boom** en hij wil dat te... te gebruiken om euh om **hard te lopen** en daarna **boven het stukje boom gaan en dan vliegen boven het meer.**’

NT2F, FRAGMENT8

[[...] To do this, he takes a euh a piece of tree and he wants to use it to run and afterwards to go above the piece of tree and then fly above the lake.]

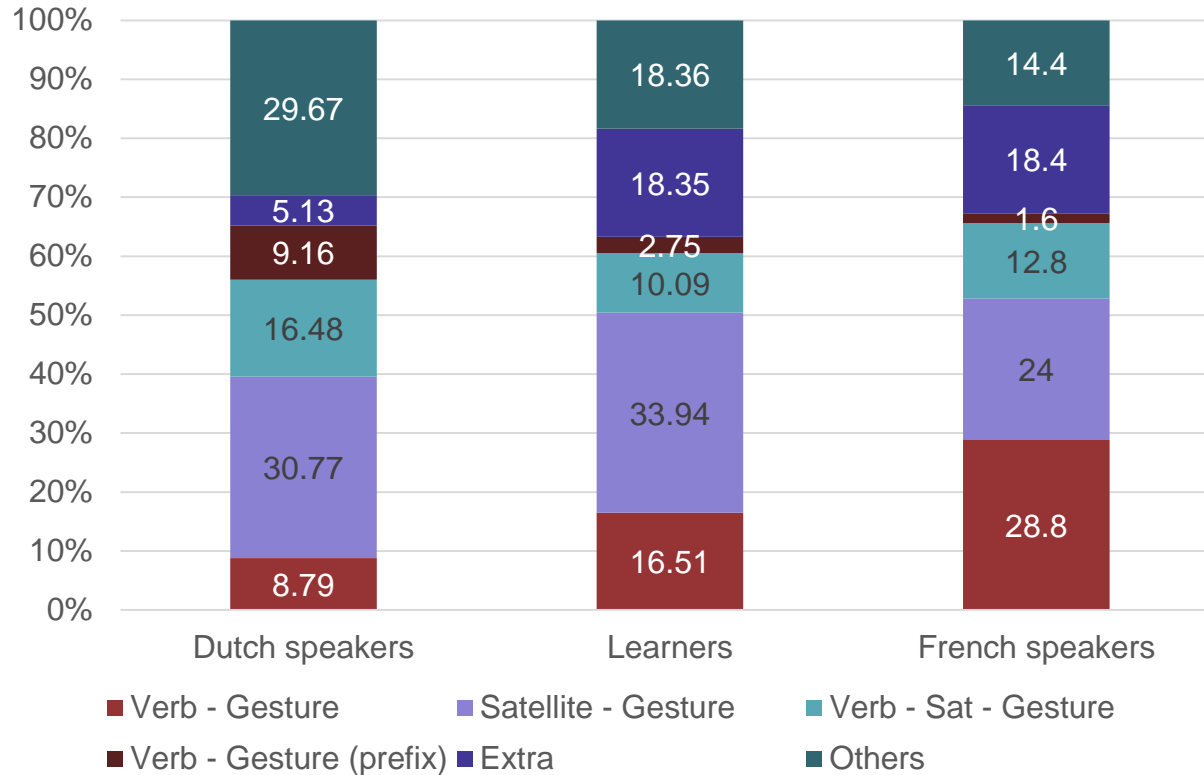


3.4.

Speech vs. gestures

3.4.1.

Speech vs. gestures in XP I



3.4.2. Speech vs. Gestures

Speech vs. Gestures in the native speakers groups (RQ4):

- French speakers: verb, satellite, extra
- Dutch speakers: satellite, verb and satellite, extra

Speech vs. Gestures in the learners group (RQ4):

- NT2: satellite, extra, verb

→ Similarities as well as differences => // **Kita & Özyürek (2003) McNeill (2006), Brown & Chen (2013)**

→ Intergesture system? // *interlanguage* (Selinker 1972)



Example: Extra information



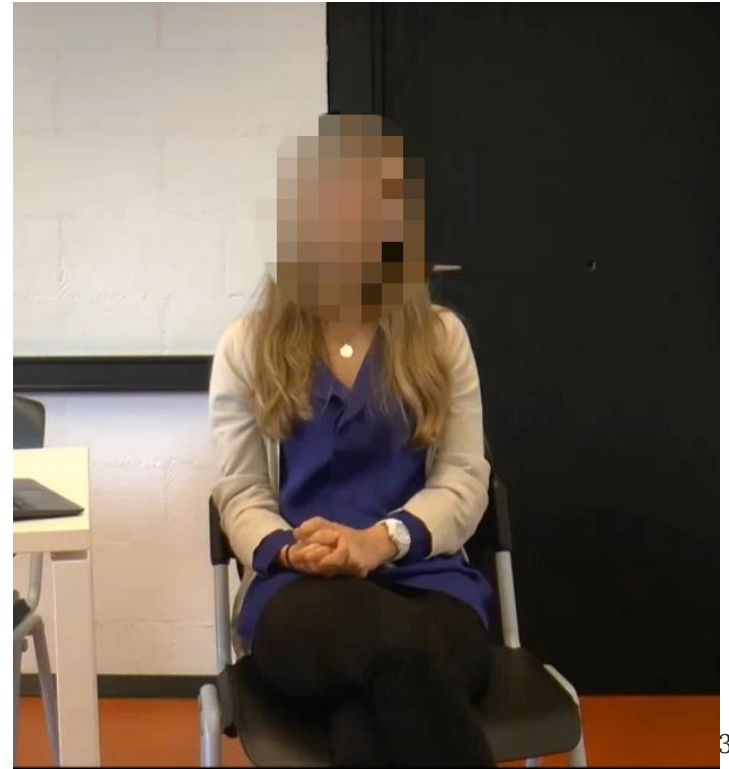


Example: Extra information

‘Hij sleept Sylvester mee, houdt het nog eventjes boven het water.’

MTF, FRAGMENT4

[He drags Sylvester with him, holds it above the water for a bit.]



4.

Conclusion

Can motion event construal be taught or restructured?

4.

Can motion event construal be taught or restructured?

Dynamic motion events	Static motion events
<p data-bbox="338 496 956 638">Not explicitly taught Frequent use of manner motion verbs</p> <p data-bbox="338 704 956 900">Less frequent use of the verbs in which manner is encoded in the stem and path in a prefix</p>	<p data-bbox="975 496 1593 693">Posture verbs explicitly taught to half of the participants but still underused</p>

4.

Can motion event construal be taught or restructured?

Degree of complexity

- Semantic networks of posture verbs
- Verb with manner in stem and path in prefix

Similarities and differences with L1

- Existence of manner motion verb in French vs. non-existence of posture verbs

Gesture

- Frequency of path gestures similar to L1 but form? Boundary crossing?
- Non-substantive gestures
- Synchronization?

Acquisition vs. learning?

5.

Further Research & PhD Project

5. Further Research PhD Project

- Standard language test
- **CLIL-pupils** in the 4th form => Influence of the way the target language is learned/acquired
- **Longitudinal** study (4th, 5th and 6th forms)
- **Synchronization** between speech and gesture
- Analysis **per motion event**
- **Transcription** using **Stam** (2008)'s codes
- **Speech analysis** also on the basis of **Woerfel** (2019)'s parameters
- **Gesture analysis** also based on **Bressemer** (1999 mentioned in 2013)'s taxonomy
- **Speech/gesture analysis** using **Özyürek et al.** (2008)'s methodology



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Thank you for your attention!

