Learning on the Run… or Finding Their Own Path?

A Multimodal and Longitudinal Study of Motion Events in L2 Dutch

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en vue de l'obtention des titres de

Docteure en Langues, lettres et traductologie (Université de Liège)

Docteure en c (Université de Lille)

sous la direction de

Julien Perrez (Université de Liège)

Maarten Lemmens (Université de Lille)

Année académique 2025-2026

"Whatever you do in life will be insignificant, but it is very important that you do it, because nobody else will."

Remember me **(2010) inspired by Mahatma Gandhi**

Acknowledgments

A few months ago, I came across a Facebook post that said “you are the actual product of the PhD, not the thesis” and I could not agree more. The PhD is not only the few hundred pages you have in your hands, but also, first and foremost, almost six years of my life. Therefore, while I acknowledge it is somewhat unconventional, I intend to express my gratitude first in person to everyone who has contributed to the completion of this thesis and particularly to the person I am today. In the meantime, I wish to express my gratitude to the schools that allowed me to collect data even during the pandemic and especially the CLIL school where I had to go multiple times over three years to collect the longitudinal data. I would also like to acknowledge the University of Liège and the F.R.S.-FNRS for funding my research and without whom this thesis would have never seen the light of the day. I am also grateful to my supervisors for their guidance throughout the years and to Gale Stam for being part of my thesis committee and for her precious advice Finally, I would like to express my appreciation for your acceptance to serve on the examination committee and for the time you will dedicate to evaluating my work.

Abstract in English

The typological differences between verb-framed (V-framed) and satellite-framed (S-framed) languages identified by Talmy (2000) have also been shown to be reflected in co-speech gestures (e.g., Kita & Özyürek 2003; McNeill & Duncan 2000; Stam 2006, 2010, 2018; Ünal, Mamus & Özyürek 2023). The Interface Hypothesis predicts that the semantic components encoded gesturally (e.g., manner vs. path) will mirror the way information is packaged in speech (Kita & Özyürek 2003). Other studies have found that path gestures align with different linguistic units in V-framed and S-framed languages (e.g., Stam 2006, 2010, 2018). Co-speech gestures should therefore be considered when examining speakers' thinking-for-speaking patterns (e.g., Stam 2018).

Against this background, the present study investigates how motion events are expressed in speech and co-speech gestures by L1 French speakers, L1 Dutch speakers, and CLIL French-speaking learners of Dutch. The study also includes a longitudinal component: the L2 learners repeated the experiment two years later, allowing us to explore whether their thinking-for-speaking patterns changed as their proficiency increased.

An elicitation task was conducted in which 15 L1 French speakers, 14 L1 Dutch speakers, and 12 L2 Dutch speakers recounted scenes from Tweet Zoo (1957). Using established taxonomies (e.g., Cadierno & Ruiz 2006; Kopecka 2006; Özçalışkan & Slobin 1999), we identified the semantic components (manner and path) encoded in verbs and satellites. Gestures were categorized as iconic, beat, metaphoric, deictic, or pragmatic (Kendon 2004; McNeill 1992). Iconic and deictic gestures were further analyzed for the motion components they conveyed (e.g., manner, path, ground) and for viewpoint (character vs. observer; McNeill 1992). Finally, we examined combinations of semantic components across speech and gesture, and we analyzed gesture–speech synchronization following Stam (2006).

The results of this study show that even though Dutch-speaking participants focus on manner in their oral descriptions, they tend to produce path gestures only when describing self-propelled movements. These findings contradict the Interface Hypothesis,

which predicted conflated gestures (manner and path together). French-speaking participants tend to focus on path both in speech and in gestures. The gestural differences between the two languages lie in the alignment between gestures and speech: French speakers tend to produce path gestures simultaneously with the verb, whereas Dutch speakers do so at the same time as the satellite. As for the learners, they seem to be aware of the "manner" character of Dutch, but it is difficult for them to express movements like L1 speakers: in fact, complex verbs are very rare in the data, and they do not tend to accumulate semantic components in their speech. At the gestural level, learners have their own behavior: they tend to produce more non-referential gestures (pragmatic and beats) and more referential gestures (here iconic and deictic) per utterance. Learners also produce more manner gestures than L1 speakers. We can thus speak of intergesture just as learners have an interlanguage (Selinker 1972).

Résumé en Français

Les différences typologiques entre les langues à cadre verbal et les langues à cadre satellitaire, identifiées par Talmy (2000), se reflètent également dans les gestes produits en accompagnement de la parole (gestes co-verbaux), comme l'ont montré plusieurs études (par ex. Kita & Özyürek 2003 ; McNeill & Duncan 2000 ; Stam 2006, 2010, 2018 ; Ünal, Mamus & Özyürek 2023). L'Hypothèse de l'Interface prédit que les composantes sémantiques encodées gestuellement (par exemple, manière vs trajectoire) refléteront la façon dont l'information est structurée dans la parole (Kita & Özyürek 2003). D'autres études ont montré que les gestes représentant la trajectoire s'alignent sur différentes unités linguistiques dans les langues à cadre verbal et à cadre satellite (par exemple, Stam 2006, 2010, 2018). Les gestes accompagnant la parole devraient donc être pris en compte lors de l'étude des schémas de pensée liés au langage (thinking-for-speaking) (par ex. Stam 2018).

Dans ce contexte, la présente étude s'intéresse à la manière dont les mouvements sont exprimés dans la parole et dans les gestes co-verbaux par des locuteur·ices L1 du français, des locuteur·ices L1 du néerlandais et des apprenant·es francophones en immersion néerlandais (CLIL). L'étude comporte également une dimension longitudinale : les apprenant·es ont répété l'expérience deux ans plus tard, ce qui nous permet d'examiner l'évolution de leur schéma de pensées pour parler par rapport à l'évolution de leur niveau linguistique.

Une tâche d'élicitation a été menée auprès de 15 locuteur·ices L1 du français, 14 locuteur·ices L1 néerlandais, et 12 apprenant·es L2 du néerlandais, qui ont narré des scènes de Tweet Zoo (1957). À l'aide de taxonomies établies (par ex. Cadierno & Ruiz 2006 ; Kopecka 2006 ; Özçalışkan & Slobin 1999), nous avons identifié les composantes sémantiques (manière et trajectoire) encodées dans les verbes et les satellites. Les gestes ont été classés comme iconiques, battements, déictiques ou pragmatiques (Kendon 2004 ; McNeill 1992). Les gestes iconiques et déictiques ont été analysés plus en détail pour les composantes du mouvement qu'ils transmettaient. Enfin, nous avons examiné les

combinaisons de composantes sémantiques entre la parole et le geste, et avons analysé la synchronisation geste–parole selon Stam (2006).

Les résultats de la présente étude montrent que même si les locuteur·ices néerlandophones se focalisent sur la manière dans leurs descriptions orales, il·elles ont tendance à produire des gestes de trajectoire uniquement quand il·elles décrivent des mouvements autopropulsés (self-propelled). Ces résultats vont à l'encontre de l'Hypothèse de l'Interface qui prédisait des gestes fusionnés (manière et trajectoire ensemble). Les locuteur·ices francophones ont tendance à se focaliser sur la trajectoire aussi bien dans la parole que dans les gestes. Les différences au niveau gestuel entre les deux langues résident dans l'alignement entre les gestes et la parole: les locuteur·ices francophones ont tendance à produire les gestes de trajectoire en même temps que le verbe tandis que les locuteur·ices néerlandophones les produisent en même temps que le satellite.

En ce qui concerne les apprenant·es, il·elles semblent conscient·es du caractère "manière" du néerlandais mais il est difficile pour elleux d'exprimer les mouvements comme les locuteur·ices L1: en effet, les verbes complexes sont très peu fréquents dans les données et il·elles n'ont pas tendance à accumuler les composantes sémantiques dans la parole. Au niveau gestuel, les apprenant·es ont leur propre comportement: il·elles ont tendance à produire plus de gestes non-référentiels (pragmatiques et battements) et plus de gestes référentiels (ici iconiques et déictiques) par phrase. Les apprenant·es produisent également plus de gestes de manière que les locuteur·ices L1. En somme, nous pouvons parler d'intergeste tout comme les apprenant·es ont une interlangue (Selinker 1972).

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List of abbreviations

* + Semantic component	Wrong form or form from another language
e.g., *MannerV	e.g., French manner verb used in L2 Dutch (*lancer*)
CEFR	Common European Framework of Reference for Languages
CLI	Crosslinguistic influence
CLIL	Content and Language Integrated Learning
CLILa + number	ID given to CLIL French-speaking learners of Dutch in 2021
CLILc + number	ID given to CLIL French-speaking learners of Dutch in 2023
CLIN	Crosslinguistic interaction
CME	Caused motion event
DU	L1 Dutch
DU + number	ID given to L1 Dutch-speaking participants
DU2a	L2 Dutch by CLILa (2021)
DU2c	L2 Dutch by CLILc (2023)
EF (or E-framed)	Equipollently-framed
F	Fragment
FESeC	*Fédération de l'Enseignement secondaire catholique* [Catholic Secondary Education Federation]
FR	L1 French

FR + number	ID given to L1 French-speaking participants
G	Gesture
ICME	Intentional caused motion event
IL	Interlanguage
L1	First language
L2	Second language
LE	Location event
Ln	Any language acquired or learned after L1
ME + number	Motion event ID
S	Satellite
SF (or S-framed)	Satellite-framed
SV	Subject + Verb
Sp	Speech
SPME	Self-propelled motion event
TFS	Thinking-for-speaking
TL	Target language
UCME	Unintentional caused motion event
V	Verb
VF (or V-framed)	Verb-framed
VO	Verb + Object