The aspect hypothesis revisited[1,2]

Revising the aspect hypothesis in L2 acquisition based on a Dutch-French translation experiment

L. (Lex) Tavenier[3]
BA French language and culture, Utrecht University, Utrecht.

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Abstract
The literature on the L2 acquisition of tense systems has consistently argued that learners are sensitive to lexical aspect in the beginning stages of their acquisition (Andersen, 1986; Bardovi-Harlig, 1998; González, 2003; Domínguez et al., 2013). We question this sensitivity by showing how the narrative past tense use of the majority of our B2 learners of French does not pattern strongly with any aspectual typology, despite the fact that the target use of French tenses in past narratives strongly correlates with the durative/terminative distinction. We account for the individual L2 grammars of B2 learners by appealing to L1 transfer in two different guises. Our L2 data are based on a Dutch-French translation experiment with 12 monolingual and 2 bilingual students of French at Utrecht University.

1. Introduction

When acquiring a language after one's native language (from now on L2), one has to acquire the tense system of the target language. In L2 acquisition theory, the "aspect hypothesis" predicts L2 learners are sensitive to lexical aspect when doing so. We devised a translation experiment for our participants (Dutch L2 learners or bilingual native speakers of French studying French at Utrecht University) based on *L'étranger* by Albert Camus to see whether they are sensitive to aspectual class in any of six guises of the aspect hypothesis we propose, based on the existing literature.

Section 2 provides the relevant theoretical background, section 3 describes the current study while section 4 presents the results, discussed in section 5. Section 6 concludes this paper.

1 I owe a big thank you to dr. Bert Le Bruyn from Utrecht University, who provided our research group with invaluable assistance during our research and helped me in writing this article. I am also grateful for Sanne Schooten's extensive feedback on multiple drafts of this article.

2 The research described here was presented at the RomTiN 2017 conference on romance linguistics at the University of Amsterdam by E. Salimans and L. Tavenier.

3 Though this article is the work of one author, the research was carried out by a research group consisting of (alphabetically) Semm Beriah, Wendelien Cretier, Pierre Faure, Anne Meiberg, Chiel de Nennie, Jarrish Ramcharan, Evi Salimans, Sanne Schooten, Sarah Smedes, Alexandra Vrolijk, Bastienne Weusten, Dagmar de Wit and me.

2. Theoretical framework

2.1 Aspect

The notion of lexical aspect, described first in Vendler (1957), refers to the internal temporal organization that is implied by an action, event or state as denoted by a verb. To illustrate, Vendler distinguishes between verbs that allow a progressive construction ("to be" + infinitive + "-ing"), such as *to run* (in 1)), and those that don't, such as *to know* (in 2)):

(1) I am running.

(2)* I am knowing.

Only the first group of verbs implies a process taking place over time. Within these groups, Vendler finds even more distinctions: not all verbs imply an inherent point of culmination where the action obtains or ends. He demonstrates this by arguing that some interrogative constructions, combined with these verbs, give rise to non-grammatical questions because what they ask for is such a point of culmination. Compare for instance 3) to 4) and 5) to 6):

(3)* In how much time did you run?

(4) In how much time did you draw that circle?

(5) When did you win?

(6)* When did you love?

Verbs like *to run*, which imply a process taking place without presupposed end (one could go on running forever), are called activities. Verbs like *to draw a circle*, which imply a process going on in time which must come to an end (once the drawing has come full circle, that instance of drawing a circle has come to an end) are called accomplishments. Verbs like *to win*, which imply only an indivisible point in time as a point of culmination (you only really win a race the instant you cross the finish line first), are called achievements. Finally, verbs like *to love*, which imply neither a process of conscious effort going on across time, nor an inherent point of culmination, are called states.

In the literature that followed Vendler's analysis (Bardovi-Harlig, 1998; González, 2003; Domínguez et al., 2013), these four base classes have been regrouped differently for different purposes: sometimes a bipartite distinction is made between all that is 'durative' (states and activities) on one hand and all that is 'terminative' (accomplishments and achievements) on the other. At other times everything 'static' (states) is opposed to everything 'dynamic' (activities, accomplishments and achievements).

Finally, the aspectual class of a verb depends on linguistic context. *To eat* is an activity, but *to eat a cake* is an accomplishment – you can eat a cake, but finishing it ends the action. Aspectual class then depends on whether you look at an infinitive in isolation (from here

on VERB) or a verb with its arguments (from here on VERB+ARG). This dependency of aspectual class on linguistic context can be demonstrated in another way: *to have cake* (a VERB+ARG context) is an activity much like *to eat*, but put into the context of the small discourse in 7) it is an accomplishment:

(7) We had cake. Afterward, we went for a swim.

Here we find that aspectual class also depends on discourse context (from now on VERB+ARG+CONTEXT): the fact that we went for a swim afterward implies that, logically, the eating of the cake has ended.

2.2 Aspect in the French verbal system

According to the analysis by Kamp and Rohrer (1983), the French Imparfait (IMP from now on) is the *de facto* past tense for expressing states and activities, whereas the *Passé Composé* or *Passé Simple* (PC and PS respectively from now on) are both standardly used for expressing accomplishments and achievements. French past tense use is thus very transparent: lexical aspectual information helps the user of the language decide what past tense to use for which verb.

2.3 Aspect in the Dutch verbal system

In Dutch, the most straightforward equivalents of these French past tenses are the OVT or *onvoltooid verleden tijd* (which, morphologically, is like the IMP because it consists of only one main verb) and the VTT or *voltooid tegenwoordige tijd* (which, morphologically, is like the PC because it consists of an auxiliary and a main verb). Of these two the OVT is aspectually neutral, meaning it can be used for expressing any verb in an aspectually unmarked way.

2.4 The aspect hypothesis in L2 acquisition

Andersen (1986) studies two English child L2 learners of Spanish, a language in which the choice of tense depends on the aspectual class of the verb. Andersen looked at their Spanish past tense use in those contexts (English Simple Past) where either a *Pretérito Indefinido* or *Pretérito Imperfecto* was expected. He found that the Pretérito Indefinido first emerged in their production of achievements, then accomplishments, next activities and finally states, whereas the opposite pattern seemed to hold for the Pretérito Imperfecto. The idea that L2 learners, at least in the beginning stages of acquisition, are sensitive to the aspectual class of verbs when acquiring the tense system of the target language would become known as the aspect hypothesis.

Labeau (2005) argues that both the basic hypothesis and an expanded version of it (cf. Anderson, 2002) fail to account for the development in advanced L2 French and that other factors must be taken into account.

More recent studies have argued that, instead of a tiered evolution across all aspectual classes, a binary opposition of aspectual classes best explains learner data. Domínguez et al. (2013) looked at a larger sample of English learners of L2 Spanish. They argue the

Indefinido first emerges for verbs of dynamic events and then static events, with the inversed pattern again holding for the Imperfecto. González (2003), however, studied Dutch L2 learners of Spanish, and argues the most salient distinction is the terminative/durative one, with the Indefinido first emerging for everything terminative and then for everything durative and vice versa for the Imperfecto.

Clearly, there is not yet a consensus on how exactly lexical aspect influences the development of L2 tense systems. This study aims to shed further light on this question in a translation experiment that exhaustively tests all possible guises of the aspect hypothesis across levels of aspectual information (VERB, VERB+ARG and VERB+ARG+CONTEXT) and aspectual distinctions (static/dynamic and durative/terminative). Section 3 elaborates on the present study.

3. This study

3.1 Hypotheses

Our experimental hypotheses are based on the existing literature on L2 acquisition. To see whether the participants in our study are sensitive to aspectual class in L2 production, we must consider both the possibilities that they are sensitive to aspectual class as organized in either the static/dynamic or the durative/terminative distinction.

Moreover, in earlier studies on the subject, it is not always clear what possible level of aspectual information (VERB, VERB+ARG or VERB+ARG+CONTEXT) was taken into consideration during the analysis of the data. Therefore, to develop an exhaustive list of hypotheses we propose to cross these possibilities, which leads to the following six hypotheses for the choice of past tense in L2:

i. L2 learners are sensitive to the durative/terminative aspectual distinction of the verb in isolation.

ii. L2 learners are sensitive to the static/dynamic aspectual distinction of the verb in isolation.

iii. L2 learners are sensitive to the durative/terminative aspectual distinction of the verb with its arguments.

iv. L2 learners are sensitive to the static/dynamic aspectual distinction of the verb with its arguments.

v. L2 learners are sensitive to the durative/terminative aspectual distinction of the verb with its arguments, in discourse context.

vi. L2 learners are sensitive to the static/dynamic aspectual distinction of the verb with its arguments, in discourse context.

Hypothesis v, which predicts a sensitivity to lexical aspect of verbs along with their arguments in discourse context as demarcated by the durative/terminative distinction,

is what the Kamp and Rohrer (1983) analysis predicts for a French target grammar. Because of L2 learners' sensitivity to aspect, under hypotheses i, iii and v they are expected to use the IMP for states and activities and PC for accomplishments and achievements, as determined by the different levels of aspectual information. Under hypotheses ii, iv and iv however, they are expected to use the IMP for states and PC for activities, accomplishments and achievements.

3.2 Method

This study is based on a Dutch-to-French translation task of a Dutch translation of *L'étranger*, a French novel by Albert Camus. The Dutch translation used is the one by Adriaan Moriën, published in 1949 by De Bezige Bij publishers. The edition we used is dated 1998 and is bundled in a single volume containing multiple texts by Camus. This study focuses on past tense use.

3.3 Participants

14 students (10 female, 4 male, average age 20;11, the youngest being 19;00, the eldest 28;1) taking the course *Variatie in betekenis: Tijd in taal (TK5)* at Utrecht University took part in this experiment. All were either second or third year BA French students and some had taken the course *Pratique réflexive de la traduction NL-FR FR-NL A*, which, like TK5, is part of a set of courses that offer further study of French linguistics, translation in particular. They all had mastery of French at a high or native level (for 12, Dutch is their only L1, the other 2 are Dutch-French bilinguals (one dominant in Dutch, the other in French)).[4] The bilingual participants did not have to take courses of explicit French instruction the other 12 had to follow as part of their studies. The levels of French written production of the participants varied between B2 and C2 (according to auto-evaluation based on the criteria of the *Cadre Européen Commun de Référence*), most monolinguals were at B2 level, with some being at B2+ or C1+.[5] The participants were not remunerated for their participation.

3.4 Procedure

After an explanation of the task by their professor, who omitted the details of the experiment that could influence the participants' choices while translating, the participants were asked to translate the first 184 sentences of *L'étranger*. This took place during two consecutive classes of the previously mentioned course called *TK5*, which amounts to 3 hours and 45 minutes.[6] All participants finished translating in between 2 or 3 hours' time.

4 I would like to thank an anonymous reviewer for correctly pointing out that this sample of participants (all advanced learners of French) appears odd given the aspect hypothesis states learners are sensitive to lexical aspect in the beginning stages of acquisition. However, 'advanced' is too broad a term, as it implies an advanced level across all facets of the language; the results will show that our participants were actually not close to target-like grammars where the interplay of lexical aspect and past tense use is concerned, making the results relevant data in reconsidering the aspect hypothesis.

5 Source of criteria: *Taalprofielen 2015. Enschede: SLO*

6 These were the first two classes of the course, so they had not yet had any instruction on the linguistics of tense and aspect (which play a key role in the experiment), which the course TK5 was about.

The experiment took place in a classroom, in a group. The translations were written on either the students' private computers or the university's computers. Participants could take their time translating, taking breaks when necessary. Using electronic translating tools was permitted to look up words difficult to translate, but looking up the French source text, available online, was not. Once the translation was finished, the participant would then mail it to the professor before leaving the classroom.

3.5 Materials

The translations were made in a Microsoft Excel file. In the first column of the file every line contained a Dutch sentence to be translated. In the second column the participants entered their translation of the corresponding sentence. In case the target translation of the Dutch source sentence was too difficult, a part of the translation (but never the tense of the verb of interest in that sentence) was given. The third column contained some advice as to the choice of words, in case the target translation contained words (such as verbs) the participants had to use.

4. Results

4.1 A preliminary look at the results

In the results shown in the table in the Appendix, the translated contexts are organized per horizontal line and the participants are organized per vertical column. For every context and for every participant, the choice of past tense is given. Contexts which were translated using a PC are highlighted in red, contexts which were translated using an IMP are in green. All other past tense choices are in white. The contexts represented are not in original order of occurrence, but organized from mostly PC to mostly IMP. Given that the source text was a narrative written in past tense mostly, we expected the lion's share of the translations to consist of past tenses. The results show we were right in expecting so.

Further inspection shows that there is a lot of variation between the past tense choices of participants: some participants used mostly the IMP whereas others used mostly the PC, like the bilingual participants, who are represented in the third and fourth lines. This large amount of variation at the individual level reveals it is important to not only look at the results at the group level (to see for instance how the bilingual controls translate differently from the monolinguals), but the individual level as well to see if different individual participants have translated differently, according to our different hypotheses.

For multiple reasons, we decided to treat a context translated as a PS as if translated as a PC: first, although one would expect it to, *L'étranger* contains no PS at all, second, the PS is not actively instructed in the Netherlands and, third, the PC is often used as a spoken equivalent of the PS. This mostly had an impact on the results of the bilingual participants, who often used the PS in their translations.

4.2 An in-depth look at the results per individual

First, using a Cohen's Kappa analysis we confirmed there is little correspondence between the participants' individual translations. Cohen's Kappa is a statistical tool that allows

to estimate the correspondence between two participants' judgments (in this case, the choice for a particular past tense), all while eliminating the chance occurrence that they might have converged on the same judgment because of the limited set of options to choose from.

Table 1.

Cohen's Kappa values indicating correspondence between translators' choices in past tense use.

	bi 1	**bi 2**	**mono 1**	**mono 2**	**mono 3**	**mono 4**	**mono 5**	**mono 6**	**mono 7**	**mono 8**	**mono 9**	**mono 10**	**mono 11**	**mono 12**
bi1	–													
bi 2	**.79**	–												
mono 1	.49	.41	–											
mono 2	.19	.15	.30	–										
mono 3	.25	.19	.42	**.60**	–									
mono 4	.18	.13	.30	.56	.47	–								
mono 5	**.66**	.57	.40	.21	.25	.23	–							
mono 6	**.59**	.53	.51	.35	.43	.40	.46	–						
mono 7	.12	.13	.23	.76	**.66**	.58	.21	.26	–					
mono 8	**.66**	.58	.40	.14	.20	.14	**.62**	.43	.11	–				
mono 9	**.64**	**.69**	.40	.22	.28	.21	**.66**	**.63**	.19	.54	–			
mono 10	**.61**	**.62**	.37	.13	.32	.16	.51	.50	.17	.54	**.69**	–		
mono 11	.34	.34	.48	.41	.44	.37	.38	.45	.42	.32	.33	.26	–	
mono 12	.56	.48	.56	.27	.35	.25	.55	.49	.22	.53	.53	.44	.41	–

Table 1 shows the Kappa value signifying the correspondence between all individual participants. The correspondences between all individual participants are represented by comparing each participant's choices of past tense with all others' choices. A value of 0.6 or greater was deemed a strong enough correspondence for the purposes of this study. This reinforces the idea that it is worth looking at the results at the individual level.

We compared the individual translations to the past tense use as predicted by the six hypothetical translations. Because the French tense system is dependent on aspectual class, the different levels of aspectual information learners could be sensitive to predict different use of past tenses. For this analysis, we looked at 99 translated contexts: all contexts which were unanimously translated as a PC, all contexts which were unanimously translated as an IMP and finally a part of the contexts for which the ratio use of PC : IMP was about 1:1.

Next, we reached a consensus on the aspectual class of each translated context, in accordance with all three levels of aspectual information as distinguished by our hypotheses, based on our research group's advanced learners' and native speakers' intuitions.

Based on these aspectual classes, we decided which would be the target past tense in French, as based on either the static/dynamic or the durative/terminative subdivisions of aspectual class and the past tense distribution that goes together with it: static would give an IMP target, dynamic a PC, durative an IMP and terminative a PC. An example of these predictions resulting from this analysis can be seen in table 2.

Table 2.

Predictions of past tense use according to the different hypotheses, based on different types of aspectual information.

			Prediction					
VERB	**VERB+ARG**	**VERB+ARG+CONTEXT**	**VERB durative vs. terminative**	**VERB static vs. dynamic**	**VERB+ARG durative vs. terminative**	**VERB+ARG static vs. dynamic**	**VERB+ARG+CONTEXT duratuve vs. terminative**	**VERB+ARG+CONTEXT static vs. dynamic**
activity	activity	activity	IMP	PC	IMP	PC	IMP	PC
accom-plishment	accom-plishment	activity	PC	PC	PC	PC	IMP	PC
achieve-ment	achieve-ment	achieve-ment	PC	PC	PC	PC	PC	PC
state	state	state	IMP	IMP	IMP	IMP	IMP	IMP
state	state	state	IMP	IMP	IMP	IMP	IMP	IMP
activity	state	state	IMP	PC	IMP	IMP	IMP	IMP
activity	accom-plishment	accom-plishment	IMP	PC	PC	PC	PC	PC
activity	activity	activity	IMP	PC	IMP	PC	IMP	PC
activity	activity	accom-plishment	IMP	PC	IMP	PC	PC	PC
accom-plishment	accom-plishment	accom-plishment	PC	PC	PC	PC	PC	PC
accom-plishment	accom-plishment	accom-plishment	PC	PC	PC	PC	PC	PC
accom-plishment	accom-plishment	accom-plishment	PC	PC	PC	PC	PC	PC
state	state	state	IMP	IMP	IMP	IMP	IMP	IMP

Then, we calculated the Kappa value for each participant and the past tense use as predicted by the six different hypotheses. This gives the correspondence between individual participants and the hypothetical translations. For the purposes of this

study, a value of 0.6 or greater signifies good correspondence, implying the participant adhered to the hypothesis in question. Table 3 shows these Kappa values.

Table 3.
Kappa values indicating correspondence between translators' past tense use and the hypothetically predicted translations' past tense use.

	Prediction					
	VERB durative vs. terminative	**VERB static vs. dynamic**	**VERB+ARG durative vs. terminative**	**VERB+ARG static vs. dynamic**	**VERB+ARG+CONTEXT durative vs. terminative**	**VERB+ARG+CONTEXT static vs. dynamic**
Bi 1	.65	.73	.73	.75	**.84**	.75
Bi 2	.66	.81	.73	.83	**.92**	.83
Mono 1	.48	.36	.42	.37	.38	.37
Mono 2	.35	.16	.29	.17	.22	.17
Mono 3	.41	.18	.33	.18	.25	.18
Mono 4	.32	.17	.26	.18	.22	.18
Mono 5	.61	.66	.62	.68	**.72**	.68
Mono 6	.49	.47	.55	.49	.58	.49
Mono 7	.35	.17	.28	.17	.21	.17
Mono 8	.56	.67	.68	.69	**.80**	.69
Mono 9	.69	.73	.73	.75	**.83**	.75
Mono 10	.72	.70	.72	.72	**.78**	.72
Mono 11	.36	.26	.28	.27	.36	.27
Mono 12	.53	.49	.54	.51	.56	.51

It appears only participants Bi 1 and 2 and Mono 5, 8, 9 and 10 (in green) adhered to one of the hypothetical translations, as predicted by our initial hypotheses (more specifically hypothesis v, as it shows the highest correspondence)[7] The other participants seem not to have been sensitive to any of the hypothetical levels of aspectual information, which

7 I would like to thank an anonymous reviewer who has correctly pointed out that Mono 5, 8, 9 and 10 show correspondence with (nearly) all hypotheses and raised the question what this means. This reflects the overlap between the predictions made by the different hypotheses – they partly regroup the same tenses under the same aspectual categories and some levels of aspectual information yield the same aspectual category. Most interesting about these data is the fact that none of the guises of the aspect hypothesis provide a good fit for all participants, suggesting they were sensitive to aspectual information in another way, if at all. This is the incentive for the post-hoc analysis under section 5.

suggests both the Domínguez et al. (2013) and the Gonzalez (2003) interpretations of the aspect hypothesis may have been incomplete.

In section 5 below, we provide a post-hoc analysis of the data to find other ways in which participants may have been sensitive to aspectual information.

5. Discussion

The results of monolingual participants 5, 8, 9 and 10 suggest they are developing a target-like French grammar, at least as to their use of PC and IMP. However, our six initial hypotheses do not account for the translations of the other individual monolingual participants. A further post-hoc analysis of the data leads us to stipulate two supplementary hypotheses:

vii. L2 learners are sensitive to the morphological form of the verb in L1.

viii. L2 learners are sensitive to the semantic value of the verb in the discourse in L1.

These two hypotheses try to explain the data by arguing for L1 transfer as an independent factor influencing the participants' translations.

Hypothesis vii predicts that L2 learners are influenced by the form of the verb in L1. As such, every simple tense would be translated by a simple tense (in this case, every OVT by an IMP) and every complex tense by a complex tense (here a VTT by a PC).

Hypothesis viii predicts that L2 learners are influenced by the discourse value of the verb in Dutch, meaning that every VTT would be translated as a PC, whereas an OVT would be translated as an IMP, except in those contexts in which Dutch would allow replacing the OVT with a VTT while leaving the narrative structure of the discourse intact. In that case, the PC would have been chosen as the past tense in translating the OVT. We decided for every translated context whether Dutch would allow this replacement: if the majority of our Dutch researchers (all but one of them native, the other a French dominant bilingual) accepted it, we considered it grammatical for that context.

Finally, we calculated the new Kappa values for the correspondence between the individual participants and the translations predicted by these new hypotheses, as can been seen in table 4.

This shows hypothesis vii (added to the left) accounts for the translations of Mono 2, 3, 4, and 7 (in green) and hypothesis viii (added to the right) accounts for the translations of Mono 1, 6 and 11.[8] These last hypotheses, unlike the aspect hypothesis on its own, can thus help explain the translating behavior of most participants (Mono 12 almost reaches the threshold of 0.6).

8 Furthermore, hypothesis viii also accounts for Mono 3, 4 and 7's data. This reflects a clear partial overlap between the two post-hoc hypotheses.

Table 4.

Kappa values for the two post-hoc hypotheses' predictions on past tense use.

	Prediction L1 morphological transfer	Prediction VERB durative vs. terminative	Prediction VERB static vs. dynamic	Prediction VERB+ARG durative vs. terminative	Prediction VERB+ARG static vs. dynamic	Prediction VERB+ARG+CONTEXT durative vs. terminative	Prediction VERB+ARG+CONTEXT static vs. dynamic	Prediction L1 discourse structure transfer
Bi 1	.26	.65	.73	.73	.75	**.84**	.75	.49
Bi 2	.21	.66	.81	.73	.83	**.92**	.83	.49
Mono 1	.47	.48	.36	.42	.37	.38	.37	**.63**
Mono 2	**1.00**	.35	.16	.29	.17	.22	.17	.95
Mono 3	**.84**	.41	.18	.33	.18	.25	.18	**.88**
Mono 4	**.95**	.32	.17	.26	.18	.22	.18	**.95**
Mono 5	.28	.61	.66	.62	.68	**.72**	.68	.51
Mono 6	.43	.49	.47	.55	.49	.58	.49	**.69**
Mono 7	**.89**	.35	.17	.28	.17	.21	.17	**.89**
Mono 8	.23	.56	.67	.68	.69	**.80**	.69	.53
Mono 9	.24	.69	.73	.73	.75	**.83**	.75	.53
Mono 10	.26	.72	.70	.72	.72	**.78**	.72	.49
Mono 11	.61	.36	.26	.28	.27	.36	.27	**.74**
Mono 12	.36	.53	.49	.54	.51	.56	.51	.53

Still, one must consider this discussion of the results in light of the fact that this could only ever be a pilot study for much more vast, exhaustive and rigorous research. Furthermore, we cannot exclude the possibility the translation task itself has influenced the participants' translations: firstly, it was a translation task, meaning some meaning could have been lost in translation. Secondly, the presentation of the sentences to be translated in separated lines could have led the participants to believe the underlying narrative structure of the discourse was less strong than it really was.

6. Conclusion

To contribute to research on L2 acquisition, more specifically the acquisition of the French verbal tense system, we have drawn on existing literature which argues that, at least in beginning stages of acquisition, learners are above all sensitive to the aspectual class of verbs to decide which tense to conjugate them in. This idea is known as the aspect hypothesis.

The data however, gathered through a Dutch-to-French translation task carried out by Dutch monolingual and Dutch-French bilingual students of French at Utrecht University,

suggest that only the most advanced L2 French learners, like the native French bilinguals, pattern according to aspectual class regarding the use of French PC and IMP past tenses. In particular, they seem to have been influenced most by the information on aspectual class provided by the entire verbal predicate in discourse context, with the durative/terminative aspectual distinction leading to a consequent choice of past tense. Nevertheless, the aspect hypothesis as it stands cannot explain the behavior of our other participants.

To do this, we call on two hypotheses based on L1 transfer: one of morphological and another of semantic discourse transfer. These two additional post-hoc hypotheses better explain the aspect hypothesis's "leftover" data and provide a better fit than the bare aspect hypothesis alone, which does yet not consider an effect of L1 transfer. As such, these hypotheses should be investigated more thoroughly to further our understanding of the aspect hypothesis.

Because this is a study of such limited scale, it should serve as a starting point for future research. It would be interesting to verify whether the post-hoc hypotheses proposed here are able to explain data gathered from experiments involving other language pairs. It would also be worthwhile to investigate spontaneous production, to rule out an influence of the task or translating itself as much as possible. ■

This experiment was conducted under supervision of dr. Bert Le Bruyn, in accordance with The Netherlands Code of Conduct for Scientific Practice issued in 2004 (revised in 2012) by the Association of Universities in the Netherlands (VSNU), and the Dutch law.

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References

Andersen, R. (1986). El desarrollo de la morfología verbal en el español como segundo idioma. *Adquisición de lenguaje/Aquisição da linguagem*, 115-138.

Andersen, R. 2002. "The dimensions of 'pastness'". In *e L2 Acquisition of Tense–Aspect Morphology*, R. Salaberry and Y. Shirai (eds), 79–105. Amsterdam/Philadelphia, John Benjamins.

Bardovi-Harlig, K. (1998). Narrative structure and lexical aspect: Conspiring factors in second language acquisition of tense-aspect morphology. *Studies in Second Language Acquisition*, 20(4), 471-508.

Domínguez, L., Tracy-Ventura, N., Arche, M. J., Mitchell, R., & Myles, F. (2013). The role of dynamic contrasts in the L2 acquisition of Spanish past tense morphology. *Bilingualism: Language and Cognition*, 16(03), 558-577.

González González, P. (2003). *Aspects on aspect: Theory and applications of grammatical aspect in Spanish* (Doctoral dissertation).

Kamp, H., & Rohrer, C. (1983). Temporal reference in French. *Manuscrit, Universität Stuttgart.*

Labeau, E. (2005). Beyond the Aspect Hypothesis: Tense–aspect development in advanced L2 French. *EUROSLA yearbook*, 5(1), 77-101.

Vendler, Z. (1957). Verbs and times. *The philosophical review*, 143-160.

Appendix

Table A.

A global look at the spread of PC and IMP use across participants and translated contexts.