

The Development of Aspect in a Second Language

Kevin McManus

Doctor of Philosophy

School of Modern Languages

Newcastle University

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Abstract

This thesis investigates the second language (L2) acquisition of aspect. Aspect is considered to be a universal property of language (Chung and Timberlake, 1985; Comrie, 1976; Klein, 1994, 1995; Smith, 1991, 1997). Therefore, all natural languages are thought to be able to convey the same aspectual meanings. However, languages do not always convey these meanings in the same ways. For example, although French and English are able to convey viewpoint aspect by tense, they differ from each other in the particular aspectual meanings they map to individual tenses. In other words, English and French differ in how they pair form with meaning for viewpoint aspect. In German, viewpoint cannot be conveyed by tense alone and semantics and pragmatics are required for viewpoint interpretation (Bohnenmeyer and Swift, 2004). So whilst languages are able to convey the same meanings, there are differences in how they go about doing this. This raises the question of the role of learners' L1 in the L2 development of aspect (e.g. Domínguez, Arche and Myles, 2011; Gabriele, 2005, 2009; Montrul and Slabakova, 2002, 2003; Slabakova, 2000, 2002, 2008). In other words, do differences in how aspect is expressed in the L1 affect how it develops in the L2?

The role of prototypes in the L2 development of aspect has been widely documented as an influencing factor (e.g. Andersen and Shirai, 1994, 1996; Bardovi-Harlig and Bergström, 1996; Bardovi-Harlig, 2000; Labeau, 2005; Salaberry, 1998, 2000). The Aspect Hypothesis (Andersen and Shirai, 1994, 1996) indicates that learners are sensitive to prototypes: L2 development is characterized by initially pairing prototypes of viewpoint with situation type. These form-meaning relationships then become less restricted as L2 proficiency increases.

Central to this thesis is the effect to which L1 form-meaning pairings and prototypes affect the L2 development of aspect. This study's research questions are as follows:

- How do learners express perfective and imperfective viewpoint aspect?

- What role do L1 form-meaning pairings have in the L2 development of viewpoint aspect?
- What role do semantic prototypes have in the L2 development of viewpoint aspect?
- What are the theoretical implications of the role of L1 background and semantic prototypes on L2 development more generally?

Participants are English- and German-speaking university learners of French L2 (n=75) and a control group of French native speakers (n=6). C-test results established two significantly different learner groups: a low group and an advanced group. Learners were further divided into groups based on L1 background, resulting in: English low group (n=19), German low group (n=19), English advanced group (n=19), German advanced group (n=18). Participants undertook three tasks: two picture-based spoken narratives and a *Sentence Interpretation task*.

Results show significant differences between learners in production and interpretation. Differences are attributable to both proficiency level and L1 background. English low group learners are significantly different to German low group learners for viewpoint marking, especially in imperfective contexts, whereas English and German advanced group learners are not significantly different from each other. Furthermore, tense selection is subject to a semantic prototype influence, with advanced group learners influenced more than low group learners. It is argued that L1 form-meaning pairings for viewpoint aspect significantly influence L2 development at the early stages of L2 development. However, as L2 proficiency increases L1 influence begins to recede and learners develop L2 form-meaning pairings. At the more advanced stages of L2 development, semantic prototypes significantly affect tense use. Furthermore, prototypical effects appear to increase with proficiency, contrary to the Aspect Hypothesis.

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Abbreviations

AH	Aspect Hypothesis
DPTH	Default Past Tense Hypothesis
IL	Interlanguage
L1	First language
L2	Second language
IMP	Imparfait
MSIH	Missing Surface Inflection Hypothesis
NS	Native speaker
PC	Passé Composé
PRES	Présent
PS	Passé Simple
SLA	Second language acquisition
SP	Simple Past
TL	Target language

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Chapter 1. Introduction

1.1 Introduction

The role of a learner's first language (L1) in second language development has been a constant source of investigation for second language acquisition researchers since at least the 1960s. This thesis contributes to this debate in two specific ways. Firstly, it presents empirical evidence on the development of aspect, a semantic universal, in a second language (L2). Secondly, it investigates L2 development from learners of two L1 backgrounds that differ for aspect marking. These two goals are addressed by examining the development of aspect by English- and German-speaking learners of French L2.

This preliminary chapter prepares the ground for this study on the L2 development of aspect. It is split into four sections, each aimed at contextualising the study. In section 1.2, aspect is briefly discussed. A detailed analysis and discussion of aspect is undertaken in Chapter 2, so in this section the focus is on the importance and relevance of investigating aspect for a better understanding of second language acquisition (SLA), and in particular L1 influence. Section 1.3 presents a brief discussion of L1 influence in SLA research. L1 influence in SLA is reviewed in Chapter 3. In section 1.4, the study's rationale, objectives and research questions are briefly presented (although these are discussed in greater detail in Chapter 4). This chapter concludes in section 1.5 with an overview outlining the chapters in this thesis.

1.2 Aspect

It is widely accepted that aspect is a language universal (e.g. Bertinetto, 1997, 2001; Binnick, 1991; Chung and Timberlake, 1985; Comrie, 1976; Klein, 1994, 1995, 2009; Sasse, 2002; Smith, 1991, 1997, 2006; von Stechow and Matthewson, 2008; amongst many others). A language universal refers to the 'basic building blocks of language' (Jackendoff, 2002:77). What is universal about language is what all human languages have in common. Chomsky (1965) refers to language universals as 'substantive universals', which are part of the brain's genetic endowment. As Jackendoff (2002:77)

puts it, language universals ‘are used differently in different languages, but one cannot construct a human language without them’. Aspect has been argued to be a specific type of language universal, a semantic one: aspect is common to all human languages, although languages differ in how they express it. Aspect has to do with two types of universal semantic information: (1) the inherent semantics of verbs/predicates/sentences (situation aspect) and (2) the particular perspective from which situations are presented (viewpoint aspect). Following Smith (1997), aspect necessarily involves the interaction between viewpoint aspect and situation aspect. Aspect is defined as ‘the semantic domain of the temporal structure of situations and their presentation’ (Smith, 1997:01).

The inherent semantics of predicates is traditionally referred to as lexical aspect, or Situation Aspect (Smith, 1991, 1997) and deals with Vendler’s (1957, 1967) classification of verbs/predicates into four lexical semantic classes based on their inherent semantic features. Table 1.1 (adapted from Arche, 2006:42) presents Vendler’s lexical classification of predicates with examples.

Stative	Activity	Accomplishment	Achievement
No-actions that hold in time but do not take time. They lack any kind of internal structure.	Events with duration but no endpoint.	Actions with a culminating endpoint that take duration to be completed.	Instantaneous events, with an endpoint but no duration
<i>be green, be sick, know, belong, hate, love</i>	<i>Swim, push a cart, write novels, walk around the park</i>	<i>walk to the beach, build a house, read a chapter</i>	<i>die, be born, fall asleep, arrive, recognize, awaken, collapse, explode</i>

Table 1.1: Vendler's lexical classification of predicates

As Table 1.1 shows, Vendler classified predicates on their inherent semantic features. The particular features involved in Vendler’s lexical semantic classes, such as durativity, dynamicity and telicity are discussed in detail in Chapter 2. The second type of aspectual information considered to be universal to human languages deals with how an event/situation is presented by speakers, such as ongoing, complete or repeated. This type of aspectual information is traditionally referred to as grammatical aspect or Viewpoint Aspect (Smith, 1991, 1997). As the label grammatical aspect suggests, it may be marked grammatically on the verb, which is the case in French, as in (1)

(1) a. Jean a joué au foot

‘Jean played football’

b. Jean jouait au foot

‘Jean was playing/used to play football’

In (1a) the French *Passé Composé* (PC) typically conveys a complete (perfective) perspective on an event. In contrast, the *Imparfait* (IMP) in (1b) conveys a non-complete (imperfective) perspective on an event. (1b) could mean that Jean was playing football, or that he used to play football. The differences between lexical aspect (or situation aspect) and grammatical aspect (or viewpoint aspect) and how they interact in sentences are discussed in Chapter 2. Chapter 2 also reviews work in which some researchers (e.g. Verkuyl, 1993, 1999, 2005) argue for just one type of aspectual information. A criticism not often found in the literature relates to the labels grammatical versus lexical aspect, which implies that they are grammatical versus lexical categories, respectively. This is not always the case, as Chapter 2 shows. Languages can convey viewpoint aspect information in many different ways and not always morphosyntactically.

Aspect has been briefly presented as a universal property of language that breaks down into two types of interacting semantic information: (1) situation aspect and (2) viewpoint aspect. But why investigate aspect for a better understanding of SLA, and in particular L1 influence in SLA? Research attesting to aspect’s universality signifies that it is a fundamental part of human language: it is expressed in all human languages. The importance and relevance for investigating aspect resides partly in its universality and partly in its diverse means of expression. Not only is aspect universal, but it is also subject to considerable cross-linguistic variation (Comrie, 1976; Smith, 1991, 1997; Verkuyl, de Swart and van Hout, 2005). It is aspect’s universal and cross-linguistic variation that makes it relevant for SLA research. Firstly, universality is important because studies are able to investigate how a linguistic property present in both the L1 and the L2 is realized. In this sense, the L2 learner does not need to acquire anything new

(depending on the linguistic property under investigation), just the new ways the same linguistic property marked in the L1 is expressed in the L2. Secondly, aspect's considerable cross-linguistic variation means that it is expressed in many different ways, such as by morphological, syntactic and pragmatic means. By investigating how the L2 differs from the L1 for aspect marking, clear predictions can be made for initial L1 influence through L1-L2 contrastive analysis. Comrie (1976) discusses morphological and syntactic means for expressing viewpoint aspect. These include prefixing in Russian (2a), tenses in Arabic (2b) and periphrasis in French (2c).

(2) a. *pisat'* vs. *na-pisat'*

'write'-perfective vs. 'write'-imperfective

b. *kabata* vs. *yaktubu*

'write'-perfective vs. 'write'-imperfective

c. *je suis en train d'écrire une lettre*

'I am (in the process of) writing a letter'

The examples in (2), all from Comrie (1976:90-99), show some of the different means languages use to convey viewpoint aspect. In (2a) imperfectivity is marked through prefixation (*na-*). In (2b), Arabic makes use of aspectual tenses, like in French as seen in (1), with a perfective tense and an imperfective tense. Languages in which viewpoint aspect is mapped to tense have the added complication that aspect is often conveyed alongside other temporal meanings, such a temporal reference, modality and evidentiality. Languages also make use of periphrasis to express viewpoint aspect, as seen in (2c) in French. Periphrasis is also commonly found in many other languages, such as Dutch (e.g. *hij is aan het tuinieren*, 'he is gardening') and German (e.g. *er ist an/bei der Arbeit*, 'he is working'). The examples in (2) represent examples where viewpoint aspect is marked with aspectual morphemes. However, viewpoint aspect is not universally expressed by aspectual morphemes. Languages such as German lack aspectual morphemes altogether (Bohnemeyer and Swift, 2004) and instead rely on

‘interpretation’ from the discourse context or the inherent semantics of the predicate. According to Bohnemeyer and Swift (2004) and Smith (2006), languages devoid of aspectual morphemes include German, Inuktitut and Navajo. Furthermore, Smith (1997) argues that in some languages with explicit aspectual morphemes, their use is not always obligatory. In Mandarin Chinese, for example, aspectual morphemes are optional. Therefore, not only is there considerable variation across languages for the expression of viewpoint aspect, but even in the same language there can also be many different means of expression. English illustrates this latter point well where viewpoint aspect may be conveyed by tense (3a) and periphrasis (3b):

- (3) a. I was eating apples
- b. I used to eat apples

The English sentences in (3) present the situation [eat apples] in different ways using different means. Tense conveys progressive viewpoint in (3a) and the periphrasis *used to* in (3b) is widely assumed to convey habituality. The expression of aspect, then, is not only varied in particular languages, but it appears to intersect with different linguistic subsystems, such as morphology, pragmatics and syntax. Consequently, the acquisition of aspect deals with different linguistic subsystems, some of which may be early-acquired ‘syntax-before morphology’ (White, 2003) and some of which may be late-acquired ‘morphology-before-semantics’ (Slabakova, 2008). The acquisition of aspect also deals with how the L1 and the L2 compare in terms of how aspect is marked and its inconsistent mapping in some languages (e.g. English). L1-L2 differences in aspect marking make it an important and relevant linguistic property for investigating L1 influence in SLA.

1.3 L1 influence

Early research on L1 influence in SLA concerned differences between the L1 and the L2. Differences between language pairs were argued to be responsible for difficulties in L2 development (Stockwell, Bowen and Martin, 1965; Weinrich, 1963). It was considered

that systematic comparisons of language pairs, referred to as Contrastive Analysis, would allow L1 influence to be predicted and therefore researchers and teachers would be able to pre-empt learner difficulty. However, it soon became clear that cross-linguistic analyses were not enough to be able to predict difficulties: predicted difficulties did not occur whilst unpredicted difficulties did occur (Corder, 1967; Dulay and Burt, 1973; Dulay, Burt and Krashen, 1982; Jarvis and Odlin, 2000; Odlin, 1989, 2003; Richards, 1974).

More recently, however, researchers have turned to L1-L2 mismatches in the pairing of meanings with forms (e.g. Ayoun, 2005; Domínguez, Arche and Myles, 2011; Lardiere, 1998a, 1998b, 2000, 2003, 2005, 2007, 2009; Montrul and Slabakova, 2002, 2003; Prévost and White, 2000, Slabakova, 2008). As meaning and form can be taken to refer to different types of information in different SLA and linguistic traditions, it is necessary to delineate what is to be understood by meaning and form in this thesis. Meaning refers to the semantic and pragmatic content of utterances as conveyed through language. In particular, this thesis deals with aspectual meaning: the aspectual semantic and pragmatic information conveyed by sentences. Form refers to morphological or surface form (e.g. verb inflections, lexemes, nominal inflections). Form-meaning pairings (also known as form-function mapping and form-meaning connections) therefore refer to the associations made by learners between a surface form (e.g. verb inflections, lexemes, nominal inflections) and the meaning that it encodes. VanPatten, Williams and Rott (2004) propose three types of form-meaning pairing:

One meaning is encoded by one form

Multiple meanings are encoded by one form

- a. in different contexts
- b. in a single context

One meaning is encoded by multiple forms

Viewpoint aspect (Smith, 1991, 1997) is one meaning that illustrates VanPatten, Williams and Rott's three different form-meaning pairing types. One-to-one form-

meaning relationships for viewpoint aspect include the English *Past Progressive*¹, which encodes just progressivity. Multiple meanings mapped to a single form are more complex, such as habituality. In English, habituality is mapped to at least three different forms: the *Simple Past*, *would* and *used to*, as shown in (4):

- (4) a. When John was little, he fed his cat.
- b. When John was little, he would feed his cat.
- c. When John was little, he used to feed his cat.

The last of VanPatten, Williams and Rott's form-meaning pairing types refer to one form with multiple meanings mapped to it. Examples of this include the Romance Imperfect tenses and the English *Simple Past*. For instance, mapped to French *Imparfait* are habituality and progressivity (as shown in 5) and mapped to the English *Simple Past* are perfectivity and habituality (as shown in 6).

- (5) Ghislaine jouait au foot.
 'Ghislaine was playing/used to play football'

- (6) Angela was late for college.

The sentence in (5) illustrates a general imperfective viewpoint, but from the sentence alone it is unclear whether Ghislaine used to play football but plays it no longer (habitual) or whether she was in the process of playing football (progressive). The sentence in (6) is equally as vague because it alone does not specify whether Angela was late for college just once (perfective) or whether she was repeatedly late for college (habitual). When one form has multiple meanings mapped to it, further information is often required to disambiguate it, such as the discourse context or lexical information; for example, adverbs. This brief discussion has illustrated the various ways languages make use of forms to convey meaning. Learners have been shown to pair meanings with forms that are not native-like, referred to as 'mapping problems' (Lardiere, 2000, 2007; Slabakova,

¹ The *Past Progressive* also encodes time reference but for viewpoint aspect it only encodes progressivity.

2008). For example, in French L2, Labeau (2005) notes that English-speaking learners often mark imperfectivity using the perfective *Passé Composé* or the Present tense instead of the imperfective *Imparfait*. Mapping problems in imperfective contexts in Spanish L2 are reported by Domínguez, Arche and Myles (2011), who state that English-speaking learners have problems selecting the Imperfect to convey some imperfective meanings (such as continuousness), and instead use the Preterit (perfective marker). Examples of learners showing problems in the pairing of meanings with forms are claimed to arise due to L1 influence (Ayoun, 2005; Domínguez, Arche and Myles, 2011; Lardiere, 2000, 2003, 2007, 2009; Salaberry, 2008 Slabakova, 2008).

1.4 Aims and rationale

As aspect is widely argued to be a universal property of language (e.g. Chung and Timberlake, 1985; Comrie, 1976; Klein, 1994, 1995; Smith, 1991, 1997), consequently all natural languages are thought to be able to convey the same aspectual meanings. This means that for aspect, all natural languages are able to convey perfective and imperfective viewpoint meanings. However, languages do not always convey these meanings in the same ways. For example, although French and English are able to convey viewpoint aspect by tense, they differ from each other in the particular aspectual meanings they map to individual tenses. In other words, English and French differ in how they pair form with meaning for viewpoint aspect. In German, viewpoint cannot be conveyed by tense alone and semantics and pragmatics are required for viewpoint interpretation (Bohnenmeyer and Swift, 2004). So whilst languages are able to convey the same meanings, there are differences in how they go about doing this. This raises the question of the role of learners' L1 in the L2 development of aspect (e.g. Domínguez, Arche and Myles, 2011; Gabriele, 2005, 2009; Montrul and Slabakova, 2002, 2003; Slabakova, 2000, 2002, 2008). In other words, do differences in how aspect is expressed in the L1 affect how it develops in the L2?

The role of prototypes in the L2 development of aspect has been widely documented as an influencing factor (e.g. Andersen and Shirai, 1994, 1996; Bardovi-Harlig and

Bergström, 1996; Bardovi-Harlig, 2000; Labeau, 2005; Salaberry, 1998, 2000). The Aspect Hypothesis (Andersen and Shirai, 1994, 1996) indicates that learners are sensitive to prototypes: L2 development is characterized by initially pairing prototypes of viewpoint with situation type. These form-meaning relationships then become less restricted as L2 proficiency increases.

Central to this thesis is the effect to which L1 form-meaning pairings and prototypes affect the L2 development of aspect. This study's research questions are as follows:

- How do learners express perfective and imperfective viewpoint aspect?
- What role do L1 form-meaning pairings have in the L2 development of viewpoint aspect?
- What role do semantic prototypes have in the L2 development of viewpoint aspect?
- What are the theoretical implications of the role of L1 background and semantic prototypes on L2 development more generally?

In order to investigate L1 influence, learners are selected from two different L1 backgrounds which differ for aspect marking. Participants are English- and German-speaking university learners of French L2 (n=75) and a control group of French native speakers (n=6). C-test results established two significantly different learner groups: a low group and an advanced group. Learners were further divided into groups based on L1 background, resulting in: English low group (n=19), German low group (n=19), English advanced group (n=19), German advanced group (n=18). Participants undertook three tasks: two picture-based spoken narratives and a *Sentence Interpretation task*.

1.5 Thesis overview

This thesis is organised into seven different chapters. Chapter 2 lays the study's theoretical foundations in a critique of aspect. It provides an overview of aspect research and specifically focuses on theories of aspect that argue for two aspectual components

(situation aspect and viewpoint aspect) and theories which argue for a single aspectual component. Chapter 2 addresses claims that viewpoint aspect is conceptually independent from situation aspect. Chapter 3 builds on Chapter 2 and discusses the development of aspect in a L2. It reviews the role of L1 background and prototypicality in the L2 development of viewpoint aspect from both theoretical and empirical perspectives. In Chapter 4, the present study's methodology is presented, with specific reference to the study's participants, data-collection procedure and materials. The study's research questions, predictions and hypotheses with reference to L1 influence and prototypicality are also set out in Chapter 4. This study's results are then presented in Chapter 5, which are discussed in Chapter 6. The discussion contextualises the results (from the literature review in Chapter 3) and discusses them with reference to the research questions and predictions set out in Chapter 4. Finally, the study is concluded in Chapter 7, where the study's main findings are summarised. Suggestions for further research are also outlined.

Chapter 2. Aspect

2.1 Introduction

Aspect research has perhaps produced as many terminological differences and labels as theoretical proposals, each with its own justification. Therefore, comparison between proposals is at best difficult. For example, there is still substantial disagreement as to the source of aspectual information: is it conveyed by verbs, verb phrases, predicates, sentences or the discourse context? Or is aspectual information built up from all or just some of these constituents? There have been many attempts at theorising aspect from a comparative perspective, that is, by showing how aspect is encoded in different languages (e.g. Bertinetto, 1997; Bittner, 2008; Bohnemeyer and Swift, 2004; Comrie, 1976; Giorgi and Pianesi, 1997; Smith, 1991, 1997; von Steutterheim, Carroll and Klein, 2009). Despite the variety of proposals, there is at least some agreement amongst researchers. Firstly, there is recognition that aspect deals with certain basic elements of situations; in particular, endpoints (Smith, 1997) or boundaries (Lyons, 1977). The basic distinction is between situations including an inherent endpoint (or bounded) and situations lacking an inherent endpoint (or unbounded). For example, the situation <eat a biscuit> has an inherent endpoint because the situation terminates when the biscuit is eaten, beyond which it cannot continue; whereas the situation <be tall> lacks an inherent endpoint, because there is nothing inherent to the situation that forces it to terminate. Different aspect theories use the notion of endpoint/boundary in different ways, but its definition remains reasonably consistent. Secondly, most researchers acknowledge that aspect involves many intersecting components, such as semantics, syntax and discourse pragmatics. As such, the aim of any theory of aspect is to account for these intersecting factors.

The term ‘aspect’ itself is used in many different ways. There is a major divide between “bidimensional” and “unidimensional” theories of aspect. Bidimensional theories of aspect (e.g. Borik, 2002, 2006; Smith, 1997) divide aspect into two components, where each component is argued to refer to a different kind of aspectual information. In contrast, unidimensional theories of aspect (e.g. Verkuyl, 1972, 1993, 1999, 2005) argue

for just one type of aspectual information. Turning just to bidimensional theories, one kind of aspectual information refers to the perspective or the viewpoint on a situation that a speaker adopts, as presented in sentences. This means that the temporal time-course of the same situation may be presented differently. Viewpoints are described as perfective and imperfective. Perfective viewpoint presents a situation inclusive of its endpoints, indicating a ‘complete’ perspective, whilst imperfective viewpoint presents a situation absent of boundaries, indicating an ‘ongoing’ or ‘non-complete’ perspective. The sentences in (1) demonstrate perfective and imperfective viewpoint in French.

(1) a. Jean a joué dans le parc

‘Jean played in the park’

b. Jean jouait dans le parc

‘Jean was playing/ used to play in the park’

Where past time reference is concerned, French marks the perfective-imperfective viewpoint distinction morphosyntactically: the *Passé Composé* (PC) conveys perfective viewpoint (1a) and the *Imparfait* (IMP) conveys imperfective viewpoint (1b). In (1a) the situation <jouer dans le parc> is presented as a complete whole, inclusive of its endpoints. In contrast, the same situation in (1b) is unspecified with respect to completion. The sentences in (1) differ in terms of their viewpoint completeness. In the literature, labels referring to aspectual information of the viewpoint kind include: Grammatical Aspect, Outer Aspect (Verkuyl, 1972, 1989, 1993), Aspect (Bertinetto, 1997, 2001), Viewpoint (Borik, 2002, 2006), Viewpoint Aspect (Smith, 1991, 1997), amongst others. In this thesis, viewpoint aspectual information (i.e. the perfective-imperfective distinction) will be referred to as VIEWPOINT ASPECT, following Smith (1991, 1997).

The second principal kind of aspectual information distinguished in bidimensional theories deals with the inherent semantics of situations as presented in sentences, and it concerns a system of situation type classification largely shaped by Vendler (1957, 1967)

with refinements from Dowty (1979) and Mourelatos (1978). Situations are categorized on the basis of inherent temporal properties: durativity, dynamicity and telicity.

Durativity, as Comrie (1976:41) suggests, ‘refers to the fact that the given situation lasts for a certain period of time’. Punctuality, its opposite, is not construed as involving a time-span, not even a very short one: it ‘takes place momentarily’ (Comrie, 1976:42). The sentences in (2) contrast durativity and punctuality.

- (2) a. James planned his escape.
- b. James discovered fish and chips.

(2a) is durative because the inherent semantics of the predicate describe a situation taking time. It contrasts with the punctual situation in (2b), where discovery is something instantaneous, not taking time.

The second temporal feature used for classifying sentences is dynamicity, which concerns change through the input of new energy, consisting of ‘successive stages which occur at different moments’ (Smith, 1997:19). Change may be agentive (e.g. Mary is running) or nonagentive (e.g. the fridge is humming). Stativity is its opposite, which involves no change. For Smith (1997:19), stativity consists of ‘a single, undifferentiated period [...] that] obtain[s] in time but do[es] not take time’. The difference between dynamicity and stativity is change: inherent to dynamicity and absent from stativity. The sentences in (3) contrast dynamicity and stativity.

- (3) a. James ran the Marathon.
- b. James is a man.

(3a) is dynamic because the situation constantly requires new energy input for it to continue. (3b) is stative and, as such, contrasts with (3a), as there is no new input of energy at all. (3b) contains no stages whereas (3a) does. The new constant input of energy leading to stages is the contrastive feature between (3a) and (3b).

Lastly, telicity ‘involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue’ (Comrie, 1976:45). The terminal point is inherent to the situation itself. Atelicity is its opposite: it ‘can go on indefinitely, since the nature of the eventuality itself does not determine its endpoint’ (Rothstein, 2004:07). The difference between telicity and atelicity is one of inherent endpoint: present in telicity and absent in atelicity. The sentences in (4) contrast telicity and atelicity.

- (4) a. Tony walked to the park.
- b. Tony walked around the park.

(4a) shows a telic situation with an inherent endpoint. The inherent endpoint to the situation is the park, so this is reached when Tony gets to the park. In (4b) there is no inherent endpoint to the situation. The adjunct ‘around the park’ only specifies the area where Tony walked and does not force an endpoint on the situation.

Durativity, dynamicity, and telicity are the temporal features generally used to classify situations in terms of their inherent semantics. In this respect, situations differ from each other based on specific clusters of these temporal features. Based on the seminal classification proposed by Vendler (1957, 1967), research generally acknowledges four basic types of situation²: Statives, Activities, Accomplishments, and Achievements. A situation may differ from another in terms of its inclusion and/or absence of a particular temporal feature. Table 2.1 shows the temporal features of each of these situations.

Situation	Dynamic	Punctual	Telic
Stative	[-]	[-]	[-]
Activity	[+]	[-]	[-]
Accomplishment	[+]	[-]	[+]
Achievement	[+]	[+]	[+]

Table 2.1: The temporal features of the situation types

From Table 2.1 a number of generalizations over situations can be drawn. Firstly, all situations are dynamic except for statives. Secondly, only achievements are punctual.

² However, see Smith (1997) who argues for an additional situation type: semelfactives.

Lastly, accomplishments and achievements are telic, whilst activities and statives are atelic. Table 2.2 shows examples of each situation type (from Rothstein, 2004:06).

Statives	Activities	Accomplishments	Achievements
<i>know, believe, have, desire, love, understand, be happy</i>	<i>run, walk, swim, push a cart, drive a car</i>	<i>recognize, spot/notice, find/lose, reach, die</i>	<i>Paint a picture, make a chair, deliver a sermon, draw a circle, recover from an illness, build a house</i>

Table 2.2: Examples of situation types according to their inherent semantics

Just as with viewpoint aspect, there are various labels in the literature referring to this other type of aspectual information that deals with the inherent semantics of predicates, including: Lexical Aspect, Aktionsart, Inner Aspect (Verkuyl, 1972, 1993, 1999), Actionality (Bertinetto, 1997, 2001), Telicity Aspect (Borik, 2002, 2006), Situation Aspect (Smith, 1991, 1997), amongst others. In this thesis, situation aspectual information (i.e. the inherent semantics of situations and their categorizations) will be referred to as SITUATION ASPECT, following Smith (1991, 1997).

Turning now to unidimensional theories of aspect, there is no distinction between viewpoint aspect and situation aspect (e.g. de Swart, 1998; Herweg, 1991; Moens and Steedman, 1988; Verkuyl, 1972, 1993, 1999, 2005). Each approach has different implications for the analysis of aspect. For example, bidimensionalist approaches consider how viewpoint aspect and situation aspect impact on one another (such as if particular viewpoints affect situation type classifications), whilst for unidimensionalists there is obviously no such mutual impact as there is only one stratum of aspectual information to begin with. Furthermore, as is to be expected, unidimensionalists employ a single set of aspect-relevant semantic primitives (e.g. durative vs. terminative) to analyse and describe all aspectual information. By contrast, bidimensionalists employ one set of semantic primitives for viewpoint aspect (perfective vs. imperfective) and a different set for situation aspect (e.g. telic vs. atelic) to analyse and describe the different kinds of aspectual information, leading to two levels of analysis.

This chapter deals with the nature of aspect and how it is analysed. In particular, it addresses the theoretical choice for distinguishing between viewpoint aspect and situation aspect on the one hand and collapsing viewpoint aspect and situation aspect into a single category on the other. It is important to consider the conceptual relationship between viewpoint aspect and situation aspect due to considerable cross-linguistic variation in how viewpoint aspect is marked. For instance, if viewpoint aspect is not explicitly marked with aspectual morphemes, is it still conveyed? This question goes to the very heart of this thesis on the acquisition of aspect in a L2. In Chapter 4, one theory of L2 development (the Aspect Hypothesis) is discussed which assumes that viewpoint aspect and situation aspect are independent categories. L2 development is characterised by combining particular viewpoint and situation types. As this thesis is an investigation into the development of aspect in a L2, it is therefore necessary to understand how viewpoint aspect and situation aspect are related, if at all. And if they are, what type of relation is it? This chapter starts by addressing the conceptual foundations for proposing that viewpoint aspect and situation aspect should be conceptually distinguished, in section 2.2. A number of aspect models are discussed that differ in their analysis of aspect. Bidimensional approaches are discussed in section 2.2.1 and unidimensional approaches in section 2.2.2. I will argue for a bidimensional model. The implications of these aspect models and common themes inherent to them are summed up in section 2.2.3. In section 2.3, this chapter turns to aspect across languages and compares how languages mark viewpoint aspect.

2.2 Conceptual foundations: two components or one?

Before looking in detail at unidimensional and bidimensional approaches to aspect, it is worth looking at how such a distinction ever arose. According to Sasse (2002), 19th century and early 20th century aspect research was concerned with morphology. Aspectologists investigated how viewpoint aspect (e.g. perfectivity, imperfectivity) and situation aspect (e.g. durativity, punctuality) notions were overtly manifested in the different languages. Early conclusions were drawn to the effect that it is an essentially morphological distinction: inflectional morphology for viewpoint aspect and derivational

morphology for situation aspect (Krifka, 1989; Pollak, 1988; Strunk, 1994). Since then, advances in aspect research have indicated that aspectual information is not just tied to morphology (e.g. Bertinetto, 1997; de Swart, 1998; Klein, 1994, 1995). Indeed, despite bidimensionalists arguing that viewpoint aspect and situation aspect are independent categories, the semantic similarities of the two cannot be neglected. Both viewpoint aspect and situation aspect are often defined in terms of boundaries, albeit with two different sets of semantic primitives. Comrie (1976) claims that these different primitive sets can be collectively categorised in terms of markedness (or prototypes of semantic complexity). In such an analysis, prototypes involving endpoints include perfectivity (viewpoint aspect) and telicity (situation aspect) and prototypes with non-specified or absent endpoints include imperfectivity (viewpoint aspect) and atelicity/stativity (situation aspect). A prototypical analysis of the semantic primitives associated with viewpoint aspect and situation aspect suggests considerable overlap. Table 2.3 presents prototypical similarities between viewpoint aspect and situation aspect in terms of semantic complexity.

	'endpoints'	'no endpoints'
Viewpoint aspect	Perfectivity	Imperfectivity
Situation aspect	Telicity	Atelicity

Table 2.3: Semantic prototypes between viewpoint aspect and situation aspect

The fundamental question that immediately follows from an analysis of semantic primitives showing their prototypical affinities relates to the purported independence of viewpoint aspect from situation aspect, as bidimensionalists argue. If viewpoint aspect and situation aspect are in fact independent from each other, then why do their semantic primitives overlap to such an extent? It is these affinities that unidimensionalists capitalise on, aiming to capture it all in a single set of semantic primitives, thus also reducing what they see as duplication and complexity. To oppose such a view and argue for independence of aspectual dimensions, some researchers (e.g. Borik and Reinhart, 2004; Hinrichs, 1986) suggest linguistic tests to demonstrate their independence. The progressive entailment test (e.g. de Swart, 1998; Dowty, 1986) indicates whether

entailments between situation aspect and viewpoint aspect hold true. In other words, is viewpoint aspect derived from situation aspect? The test contrasts different aspect viewpoints (perfective and progressive) to find out whether one entails the other, as shown in (5).

- (5) a. Mary was driving the car --> Mary drove the car
b. Mary was running a mile -/-> Mary ran a mile

In (5), contrasts are made between situation aspect telic (5b) and atelic (5a) predicates. The progressive entailment test shows that for atelic predicates the progressive entails perfective: Mary was driving the car entails she drove the car. However, for telic predicates there is no such entailment correspondence: Mary was running a mile does not entail that she ran a mile. The test teases out differences between viewpoint aspect and situation aspect: an atelic predicate in the progressive entails the truth conditions with the Simple Past (5a), whereas a telic predicate does not (5b). Tests such as this one are used to argue that situation aspect does not entail viewpoint aspect, thus providing evidence for the bidimensional claim. The remainder of this section looks in detail at bidimensionality (section 2.2.1) and unidimensionality (section 2.2.2) and specifically addresses the following question: on what conceptual basis is viewpoint aspect independent from situation aspect?

2.2.1 Bidimensionality

Bidimensionalists argue that viewpoint aspect and situation aspect are independent categories. For example, in Smith's (1997:02) view: 'sentences present information about aspectual situation types [situation aspect] and viewpoint [viewpoint aspect]. The two types of information are independent'. Viewpoint aspect and situation aspect independence is also advocated by Arche (2006), Bertinetto (1997, 2001), Borik (2002, 2006), Demiradache and Uribe-Etxebarria (2000, 2004, 2007) Depraetere (1995), Giorgi and Pianesi (1997), Guéron (2008), amongst many others. Despite general agreement on

independence, there are considerable differences between proposals as regards the conceptual nature of independence.

For Borik (2002, 2006), situation aspect is defined in terms of homogeneity, as a subinterval property, following Bennet and Partee (1972, 1978):

Subinterval verb phrases have the property that if they are the main verb phrase of a sentence which is true at some interval of time *I*, then the sentence is true at every subinterval of *I* including every moment of time in *I*.

(Bennet and Partee, 1972, 1978, cited in Borik, 2002:35)

This definition describes the inherent nature of situations in terms of their temporal constituency. A predicate is homogenous if any subpart of a situation is the same as the whole. For example, if *John loved beans for twenty years*, he loved beans at every instant and every subinterval of those twenty years: no subinterval of those twenty years differed from the twenty-year period as a whole. This is why the predicate is homogenous. In contrast, in *John painted the wall*, painting the wall at every instant and every subinterval of wall painting was different: wall painting is cumulative with stages that are different from each other (e.g. different parts of the wall may be painted at different stages).

Therefore, the accomplishment *John painted the wall* is non-homogenous (or heterogeneous). A homogeneity approach to situation aspect distinguishes between homogenous statives and activities on the one hand, and non-homogenous achievements and accomplishments on the other. As for viewpoint aspect, Borik (2002, 2006) defines this in relation to Reference time (Reichenbach, 1947; Reinhart, 1986, 2000).

Reichenbach (1947) used three notions in the analysis of English tense: S = point of speech, E = point of event, and R = point of reference. Temporal reference is formalized through these notions leading to relations of precedence and simultaneity. The sentences in (6) show the application of Reichenbach's notions to English (the comma [,] stands for simultaneity and the underscore [_] stands for precedence).

- | | |
|--------------------|-----|
| (6) a. I see John | S,E |
| b. I saw John | E_S |
| c. I will see John | S_E |

The present tense in (6a) implies that the point of speech (S) coincides with the point of the event (E): the act of saying (6a) coincides with seeing John. For the past tense (6b), E precedes S: seeing John precedes the act of saying (6b). For the future tense (6c), S precedes E: the act of saying (6c) precedes E. Reichenbach incorporated point of reference (R) for ‘complex’ tenses. For example, *I saw John* and *I have seen John* both order E before S (E_S). Therefore, R allows ‘complex tenses’ to be distinguished, as in (7).

- (7) a. I have seen John E,R_S
 b. I saw John E_R,S

Reichenbach’s incorporation of R into the schema results in the Present Perfect, describing that E coincides with R which in turn precedes S. And for the Simple Past, E precedes S, which coincides with R. The difference between (7a) and (7b) concerns R: coinciding with E and preceding S for the Present Perfect but coinciding with S for the Simple Past. Reinhart (1986, 2000) developed Reichenbach’s formalization and proposed that (a) the relation between E and R is fixed ($E \supseteq R^3$) and (b) viewpoint aspect concerns the relation between S and R. Borik (2002, 2006) defines perfectivity (8a) and imperfectivity (8b) as follows:

- (8) a. Perfectivity: $S \cap R = \emptyset \ \& \ E \subseteq R$
 b. Imperfectivity: $S \cap R \neq \emptyset \ \vee \ E \not\subseteq R$

As (8) shows, the difference between perfectivity and imperfectivity is between S and R: ‘in perfective configurations, the S and R intervals do not overlap, their intersection is empty. Imperfective aspect results when these intervals overlap’ (Borik and Reinhart, 2004:17). Crucially, then, Reinhart’s reference time formalization captures viewpoint aspect differences in terms of the Reference time relationship between E and R. Furthermore, in terms of a unified theory of aspect, viewpoint aspect and situation aspect

³ \supseteq = ‘contained in’

are defined in different ways. Viewpoint aspect is defined in terms of Reference time and situation aspect is defined in terms of homogeneity.

Giorgi and Pianesi (1997) also define viewpoint aspect in terms of Reference time. They argue that ‘tenses instantiate relationships between events’ (Giorgi and Pianesi, 1997:26). Their claim for viewpoint aspect and situation aspect independence is based on syntactic grounds dealing with the interface between semantics and morphosyntax, as advocated by Demirdache and Uribe-Etxebarria (2008), Guéron (2008), Travis (1991, 1994) amongst others. Following Borer (1993), Chomsky (1995) and Pollock (1989), Giorgi and Pianesi (1997) propose that the functional category Asp, and its associated functional features [\pm perfective], is selected in Germanic and Romance languages. Different structural implementations of Asp have been proposed. For example, for Travis (1994, 2000) AspP is located at the VP level and for Sanz (1999, 2000) an AktionsartP is proposed where the features [\pm Telic] are checked. Borer (1993) and Giorgi and Pianesi (1997) propose a [TP AspP VP] structure. Therefore, viewpoint aspect and situation aspect are independently assigned different positions in the clausal architecture: Viewpoint aspect encodes a functional projection above VP and situation aspect is located at the VP level, as shown in Figure 1.

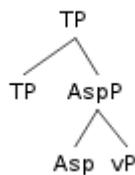


Figure 1: Clausal architecture in Giorgi and Pianesi (1997)

For the mapping between semantics and morphosyntax, Giorgi and Pianesi (1997) hypothesise that the two relations specifically underlie tense: (a) R and S and (b) E and R. These are syntactically projected in two Tense heads, each dealing with different relations: T1 (R/S) and T2 (E/R), as shown in (9) and (10).

T1	T2
(9) S_R <i>future</i>	(10) E_R <i>perfect</i>
R_S <i>past</i>	R_E <i>prospective</i>
S,R <i>present</i>	E,R <i>neutral</i>

Therefore, each tense is a hypothesised syntactic projection of T1 and T2. For example, they state that the English present tense ‘is a result of the combination of S,R [T1] with E,R [T2] to yield S,R,E, and the representation of the present perfect is the result of the combination of S,R [T1] with E_R [T2] to yield E_R,S’ (Giorgi and Pianesi, 1997:28). Although Borik and Giorgi and Pianesi all develop variants of Reichenbach’s (1947) Reference time, they also differ. For Borik, viewpoint aspect specifically concerns one relation: S/R, whereas for Giorgi and Pianesi viewpoint aspect concerns two relations: S/R and E/R. These differences mean that for Borik temporal reference (E/R) is distinct from aspectual reference (S/R), whereas for Giorgi and Pianesi no distinction between temporal and aspectual reference is established. These differences arguably arise from the languages these models are based on: Borik’s model is based on Russian and Giorgi and Pianesi’s model is based on Romance and Germanic (English) languages. In Russian, time reference and aspect are morphologically realized differently, whereas in Romance they are not (Comrie, 1976, 1985). These differences further indicate a strict mapping between viewpoint aspect and morphology, as indicated by Borik:

What determines perspective [viewpoint aspect] in this model is the relation between R and S, the same relation that determines morphological tense. Perspective is, therefore, associated with the view of a speaker, which is presumably ‘located’ at S. If a speaker is ‘inside’ the R-time domain, the perspective is internal [perfective]. If the position of a speaker is ‘outside’ the R-time domain, the perspective is external [imperfective].

(Borik, 2002:130)

In defining viewpoint aspect in different terms to situation aspect (i.e. homogeneity vs. Reference time), Borik gives good reason for viewpoint aspect and situation aspect to be conceptually independent. However, the parameters for determining viewpoint aspect are the same as ‘morphological tense’. A strict mapping between semantics and morphosyntax is also found in Giorgi and Pianesi’s model. In these models, morphological tense appears undistinguishable from viewpoint aspect. Bertinetto and

Bianchi (2003) refer to these proposals as ‘the morphological bet’. With a presumed correspondence between semantics and morphosyntax, the question that arises is how to account for languages in which a particular tense does not systematically convey the same viewpoint aspect primitive. In other words, what if a tense has more than one viewpoint aspect meaning? For Giorgi and Pianesi their ‘morphological bet’ assumes that tenses consistently ‘encode’ the same semantic primitives. This assumption meets at least three challenges. Firstly, time reference is not always mapped to tense (e.g. Mandarin Chinese). Secondly, in languages with tense, viewpoint aspect is not always mapped to it (e.g. German). Lastly, in languages where viewpoint aspect is mapped to tense, a tense does not consistently encode the same viewpoint aspect primitive (e.g. English, French). On this last point, there is evidence from French. The French IMP is taken to be a general marker of imperfectivity, as in (11a), but it has been observed conveying perfectivity as well, as in (11b).

(11) a. Chaque matin il se levait à 7h

‘Every morning he would get up/used to get up at 7am’

b. le Brésil prenait le jeu à son compte dès les premiers instants de la rencontre⁴.

‘Brazil took hold of the game from the very start’

The so-called *imparfait narratif* (e.g. Ayres-Bennett and Carruthers, 2001; Bres, 1999; Gosselin, 1999; Labeau, 2004, 2005) is no different from the IMP in form, but it has been argued to differ from the general IMP in the viewpoint information it conveys. It does this by presenting a situation perfectly and is argued by Gosselin (1996) to have the ‘same aspectual characteristics’ as the perfective Passé Simple. For example, Labeau (2004) notes that in a corpus of sport commentaries (e.g. football and cycling reports), over 60% of IMPs were perfective. As this French case shows, it is not possible to assign a systematic interpretation to a tense, as Giorgi and Pianesi do. The same is observed for the English *Progressive*: generally considered to convey progressive viewpoint, but in narration it adopts perfectivity. The assumption that particular tenses encode particular

⁴ From: Labeau (2004:142)

viewpoint aspect primitives (i.e. the ‘morphological bet’) arguably arises from the Reference time approach that Borik and Giorgi and Pianesi adopt. Reichenbach’s (1947) reference time is a formalization of tense, which encapsulates temporal reference. As a consequence, morphosyntax and semantics are undistinguishable. Although Borik and Giorgi and Pianesi conceptually argue for the independence of viewpoint aspect and situation aspect, their proposal is unable to tangibly account for viewpoint aspect unless it is mapped to tense.

Bertinetto (1997, 2001) and Smith (1991, 1997) also argue for the independence of viewpoint aspect and situation aspect, attempting however to account for viewpoint aspect in the absence of tense. Smith (1997) defines situation aspect in terms of endpoints, for which she schematically represents different situation types in terms of natural endpoints. A natural endpoint ‘finishes’ and results in a change of state because the endpoint has been reached. For instance, accomplishments have ‘initial and natural endpoints’, whereas for states and activities there are no natural endpoints inherent to the situation. All situation types are defined in terms of endpoints. In contrast to Borik (2002, 2006) and Giorgi and Pianesi (1997), however, Smith (1991, 1997) defines viewpoint aspect in the same terms as situation aspect:

Perfective viewpoints focus a situation in its entirety, including endpoints; Imperfective viewpoints focus on an interval that exclude endpoints; Neutral viewpoints include the initial point and at least one stage of a situation.

(Smith, 1997:62)

For Smith, conceptual differences between viewpoint aspect and situation aspect come down to endpoints. This distinction could be considered the classic approach to viewpoint aspect and situation aspect independence (Bertinetto, 1997, 2001; Depraetere, 1995; Smith, 1991, 1997). In line with Smith (1991, 1997), Depraetere (1995) conceptualises viewpoint aspect endpoints and situation aspect endpoints differently. The former concerns an ‘actual temporal boundary’ and the latter an ‘inherent (intended) endpoint’:

(A)telicity [situation aspect] has to do with whether or not a situation is described as having an inherent or intended endpoint; (un)boundedness [viewpoint aspect] related to whether or not a situation is described as having reached a temporal boundary.

(Depraetere, 1995:2-3)

Although Depraetere does not indicate this herself, it seems that the difference between inherent endpoint and temporal boundary concerns inherent lexical semantics and semantic time reference, respectively. Conceptual differences between viewpoint aspect and situation aspect are illustrated in (12).

(12) a. Sheila deliberately swam for two hours (telic)

b. Judith played in the garden for two hours (bounded)

The sentences in (12) (from Depraetere, 1995) are used to highlight the conceptual differences underlying viewpoint aspect and situation aspect, and to motivate their independence. However, the differences appear far from clear. As (12a) is said to be telic, then, according to Depraetere's (1995:03) own definition, it should have 'a natural or intended endpoint which has to be reached for the situation as it is described in the sentence to be complete beyond which it cannot continue'. (12a) indicates that an inherent endpoint was reached when the two hours had elapsed (the effect of the adverbial 'for two hours'). In this regard, then (12b) should also be telic. Absent from Depraetere's account is a semantic definition of how telicity and boundedness are different. It is likely that endpoint distinctions are based on intuitions. As it stands, then, it seems difficult to appreciate how viewpoint aspect endpoint differs from situation aspect endpoints. Indeed Bertinetto (1997, 2001) defines their independence in similar terms. The alleged independence of viewpoint aspect from situation aspect in terms of endpoints may therefore appear questionable. For example, Borik defines viewpoint aspect and situation aspect in different terms, so her argument for independence is arguably clearer: viewpoint aspect is defined by Reference time and situation aspect by homogeneity. However, Smith, for example, defines them in the same terms (i.e. both in endpoint terms). It is therefore difficult to see how viewpoint aspect and situation aspect are conceptually distinct when defined in the same terms, as Borik (2002:79) also notes: 'accepting these kinds of definitions essentially guarantees the impossibility of making

the two components of the aspectual theory independent'. In short, the Smith approach seems unclear compared to the Borik approach and fails to convincingly motivate independence of aspectual categories: both are defined in the same way. Following Borik and Giorgi and Pianesi's rationale, it is easier to see how viewpoint aspect and situation aspect are indeed different categories: they are defined in different terms.

A more convincing argument for viewpoint aspect and situation aspect independence, however, is proposed by Smith (1991, 1997) and Bertinetto (1997, 2001) and rests in morphosyntax. For example, Bertinetto's (2001) clearest distinctions emerge from inflectional morphology contrasting with the lexicon:

Note that Aspect [viewpoint aspect] is directly conveyed by the various tenses available within any given language. It is thus a completely independent category with respect to Actionality [situation aspect], considering that the latter is ultimately attached to the lexical meaning of the various predicates. In other words, while Aspect [viewpoint aspect] is vehicled by morphosyntactic devices, Actionality [situation aspect] is a property of the lexicon

(Bertinetto, 2001:07-08)

Claims of independence between categories defined in terms of overt realization appear to be central to Bertinetto's and Smith's bidimensional theories. In Bertinetto's terms, tense is the crux of the issue; but as was discussed with regards to the Borik (2002, 2006) and Giorgi and Pianesi (1997) models, the case is not that simple. Bertinetto (2001:09) takes the case of German, in which viewpoint aspect is not mapped to tense. He argues that 'although the German Past is aspectually neutral, their interpretation becomes straightforward in context' (ibid.). According to Bertinetto, although viewpoint aspect is not morphosyntactically realized in German, it is still conveyed. Smith (1997:62) appears to argue along these same lines: 'the two-component theory requires that all sentences have a viewpoint, since situation type information is not visible without one', suggesting along with Bertinetto that viewpoint aspect can be conveyed without aspectual morphemes. Bertinetto supports his claim with examples from German. He notes that German *studierte* (studied) can take both perfective and imperfective viewpoint because 'German Past is aspectually neutral' (examples from Bertinetto, 2001:09):

(13) a. Von 1994 bis 1999, *studierte* Hans an der Uni
‘From 1994 to 1999, Hans studied at the university’

b. Als ich nach Stuttgart fuhr, *studierte* Hans an der Uni.
‘When I came to Stuttgart, Hans was studying at the university’

Bertinetto argues that (13a) is preferentially interpreted perfectly and (13b) is preferentially interpreted imperfectly. Sentences, such as in (13), that lack aspectual morphemes are labelled ‘aspectually vague’ by Smith (1997). In contrast to Bertinetto, Smith (1997:77-78) argues that ‘aspectually vague sentences can be shown to be neither perfective nor imperfective’, instead they offer both readings. For example, Smith notes that in Mandarin Chinese, where viewpoint aspect morphemes are optional, speakers accept the same sentence (14a) with perfective (14b) and imperfective (14c) meaning.

(14) a. Zhangsan dao jia de shihou, Mali xie gongzuo baogao.
Zhangsan arrive home DE time, Mali write work report.

- b. When Zhangsan arrived at home, Mali wrote the work report.
- c. When Zhangsan arrived at home, Mali was writing the work report.

The sentences in (14), from Smith (1997:79), indicate that in the absence of viewpoint aspect morphemes either a perfective or an imperfective interpretation is possible. For Bertinetto (2001), the difference in viewpoint aspect interpretations for the German sentences in (13) depends entirely on the discourse context. However, Bohnemeyer and Swift (2004:268) suggest that in the absence of viewpoint aspect morphemes, viewpoint aspect interpretation defaults to situation aspect characteristics: in German, atelic situation aspect predicates ‘are preferentially interpreted imperfectly’ and telic situation aspect predicates ‘are preferentially interpreted perfectly’. This, they refer to as ‘telicity-dependent aspectual interpretation’. In other words, ‘clauses or verbal projections not overtly marked for viewpoint aspect are assigned semantic-viewpoint operators on the basis of the telicity of their event predicates [situation aspect]’

(Bohnenmeyer and Swift, 2004:266). Smith (2006) also argues for a similar type of ‘telicity-dependent aspectual interpretation’. She proposes that in the absence of viewpoint aspect morphemes, sentences are interpreted ‘according to the temporal features of the situation they express: intrinsically bounded events are taken as bounded (telic and single-staged events); states and other events are taken as unbounded’ (Smith, 2006:97). In other words, telic situations are ‘taken as’ perfective and atelic situations ‘are taken’ as imperfective ‘unless there is explicit contextual information to the contrary’ (Smith, 2006:97). Proposals that viewpoint aspect *is interpretable from* situation aspect in the absence of viewpoint aspect morphemes are different from claiming that situation aspect *encodes* viewpoint aspect. For example, atelic sentences do not encode imperfectivity because preferential/default interpretations can be overridden, linguistically and/or contextually. Therefore, dissociation between morphology and viewpoint aspect is proposed, contrary to the Borik (2002, 2006) and Giorgi and Pianesi (1997) models. In sum, although there are differences between Bertinetto’s (1997, 2001), Smith’s (1991, 1997, 2006), and Bohnemeyer and Swift’s (2004) proposals, they apparently agree that in the absence of viewpoint aspect morphemes, viewpoint aspect is still interpretable, whether based on the context or on situation aspect.

A potential objection to the claim of viewpoint aspect interpretation relates to the conceptual independence of viewpoint aspect from situation aspect. If viewpoint aspect is interpretable from situation aspect, as Bohnemeyer and Swift (2004) and Smith (2006) suggest, then their independence is problematic. Thus, Smith (1991, 1997) argues that viewpoint aspect and situation aspect are independent because they deal with two different kinds of aspectual information: Viewpoint aspect is defined in terms of temporal endpoints and situation aspect is defined in terms of inherent lexical semantic endpoints. However, if viewpoint aspect is interpreted from situation aspect, then viewpoint aspect is based on or derived from situation aspect, in which case viewpoint aspect cannot have temporal endpoint properties, but inherent lexical semantic endpoint properties as situation aspect does. This is problematic for their conceptual independence, because when viewpoint aspect is interpreted, it is arguably the same as situation aspect, not different. It is therefore questionable whether interpretable viewpoint aspect can be

equated with viewpoint aspect morphemes. In other words, is viewpoint aspect the same when marked by overt morphemes as when it is interpreted? Bohnemeyer and Swift (2004) are centrally concerned with viewpoint aspect interpretation, but they do not compare languages with viewpoint aspect morphemes (e.g. French) and languages lacking them (e.g. German). Direct comparison of languages would indicate if viewpoint aspect in languages with viewpoint aspect morphemes and languages lacking them is of the same nature. Further research is required to answer this question.

2.2.2 Unidimensionalism

Unidimensional approaches to aspect do not systematically differentiate between viewpoint aspect and situation aspect. As explained in section 2.2.1, bidimensional approaches carve up aspectual meaning into two kinds. In contrast, unidimensionalists focus on sentences and determine how aspectual meaning is built up. Their approach is compositional and deals with ‘sentential aspect’ or ‘predicational aspect’. According to Verkuyl (1993), it is a matter of ‘surveying the ingredients’ (or the aspectually relevant constituents) of sentences. Sasse (2002) notes an interesting correlation between these approaches: bidimensional approaches often focus on languages with rich inflectional morphology (e.g. Romance), whereas unidimensional approaches focus on languages with comparatively impoverished inflectional systems (e.g. Dutch, German). Consequently, overt aspectual morphemes pose problems to unidimensionalists and their absence poses problems to bidimensionalists.

One of the earliest unidimensional approaches is proposed by Verkuyl (1972, 1989, 1993, 2005). His theory of ‘aspectuality’ deals with logical structure operating with two mutually exclusive semantic primitives: durative versus terminative. Furthermore, his analysis is atemporal, meaning that he does not take into consideration a sentence’s temporal properties, with the exception of dynamicity. Instead, his focus is on the derivation of aspectuality in sentences, such as how bare plurals or definites affect a sentence’s aspectual meaning. The sentences in (15) demonstrate Verkuyl’s distinction between durativity [-T] and terminativity [+T].

(15) a. He ate sandwiches	[+SQA] + [+ADD TO] + [-SQA] = [-T]
b. They ate sandwiches	[-SQA] + [+ADD TO] + [-SQA] = [-T]
c. He ate a sandwich	[+SQA] + [+ADD TO] + [+SQA] = [+T]
d. They ate a sandwich	[-SQA] + [+ADD TO] + [-SQA] = [-T]

The sentences in (15) all involve the same verb form (*ate*), but differ with respect to their NPs. For Verkuyl (1993:16), the semantic differences conveyed by the NPs involve ‘quantification and delimitation of mass’. The feature $[\pm\text{SQA}]$ ‘specified quantity of A’ accounts for these differences in terms of cardinality. For example, specified quantified expressions, such as definites and numeral phrases like *a sandwich* and *he* are classified as $[\text{+SQA}]$; whereas unspecified quantified expressions, such as bare plurals like *sandwiches* are classified as $[-\text{SQA}]$. Dynamicity and progressivity as expressed by the verb are also taken into account, represented by the feature $[\pm\text{ADD TO}]$, meaning additivity. In situation aspect terms, statives are $[-\text{ADD TO}]$ and activities, accomplishments, and achievements are $[\text{+ADD TO}]$. The classifications of NPs and verbs are also shown in (15). Verkuyl’s aspectuality calculates sentential aspect $[\pm\text{terminative}]$ according to $[\pm\text{SQA}]$ and $[\pm\text{ADD TO}]$ features. A sentence is only terminative $[\text{+T}]$ when the subject NP $[\pm\text{SQA}]$, the verb $[\pm\text{ADD TO}]$, and the object NP $[\pm\text{SQA}]$ are all $[\text{+}]$, as in (15c), otherwise the sentence is durative $[-\text{T}]$, as in (15a, b, c).

For Verkuyl, aspectuality contains a limited amount of semantic information. It is built up structurally through NPs and verbs. In this respect, Verkuyl’s unidimensional approach differs radically from the bidimensional approaches seen in section 2.2.1, which are entirely defined in semantic terms. Furthermore, Verkuyl refuses the situation classes as proposed by Vendler (1957, 1967), defining verb classes instead in terms of $[\pm\text{ADD TO}]$. For Verkuyl, then, aspect is not only non-lexical, but it is also largely non-semantic:

In my view, Vendler’s classification runs afoul of the evidence emerging from the linguistic tradition in the first half of this century that aspect is essentially a non-lexical property of sentence structure, both in non-Slavic and Slavic languages.

(Verkuyl, 1993:04)

Verkuyl argues for a non-lexical approach to aspect, but, as Rothstein (2004) and Sasse (2002) claim, the origins of aspect research inherently deal with lexical semantics, dating back to Aristotle's early lexical semantic distinctions in terms of 'kinesis' (movement) and 'energeia' (potentiality). Verkuyl's refusal of verb classes separates his approach from nearly all aspect research, receiving more criticism than approval (cf. Dowty, 1986; Hinrichs, 1986; Krifka, 1989). Considering its non-lexical nature, it is therefore questionable whether Verkuyl's model is able to account for aspect by reducing everything to two structural features [\pm SQA] and [\pm ADD TO]. Furthermore, the atemporal approach excludes tense, adverbials and the discourse context from analyses. This unidimensional approach largely disregards aspect research, in particular interactions between morphosyntax and the lexicon, as seen in the Progressive entailment test in section 2.2. Verkuyl discusses the interaction of morphosyntax and the lexicon and considers how a particular tense can change a terminative sentence into a durative one, as shown in (16).

- (16) a. Judith ate a sandwich [+T]
 b. Judith was eating a sandwich [-T]

As Verkuyl (1993:10) states 'sentences like [16b] are durative. So a natural question is: if we take [16b] as a change of [16a], what has changed?'. He considers the change to be one from objective to subjective:

By choosing was...ing a speaker is said to place the hearer 'in the middle' of the eventuality described, whereas the event described in [16b] is said to be presented 'from the outside' and hence bounded. This opposition is considered to be subjective. On the other hand, [16a] would be 'objectively' terminative because any event 'eat a sandwich' when executed by one person is inherently bounded. This is (objectively) inherent to the nature of the event, whereas 'to eat sandwiches' is inherently and objectively unbounded. The difference between 'subjective' and 'objective' forms of aspectuality is often expressed by a terminological distinction between aspect [viewpoint aspect] and aktionsart [situation aspect].

(Verkuyl, 1993:10)

Verkuyl's association of viewpoint aspect with subjective marking and situation aspect with objective marking originates from metaphorical descriptions of viewpoint aspect, largely proposed by Comrie (1976). Klein (1995, 2009) is very critical of aspect models

that define viewpoint aspect as ‘viewed from inside’ vs. ‘viewed from outside’ or ‘presented as completed’ vs. ‘presented as non-completed’ or ‘on-going’. Klein rightly questions what such metaphorical definitions actually stand for, as they seem vague and elusive. Following Verkuyl’s critique, it is not instinctively clear how a speaker’s selection of one tense over another is subjective whereas choosing a specified NP over an unspecified NP is objective. The crux of the issue seems to come down to Verkuyl’s method for aspectual composition, which is unable to deal with morphosyntactic effects. Although Verkuyl indicates that use of the *Progressive* renders (16b) durative, the actual analysis for (16b) is identical to (16a): [+SQA] + [+ADD TO] + [+SQA] = [+T]. Therefore his analytical tools are unable to account for morphemic effects on aspectuality. Instead of accounting for viewpoint aspect morphemes, they are ignored: ‘I find the distinction between aktionsart [situation aspect] and aspect [viewpoint aspect] distracting’. Verkuyl (1993:11) concludes: ‘there is nothing against making a practical distinction between aspect [viewpoint aspect] and aktionsart [situation aspect], but the opposition does not play any theoretically significant role’. This conclusion is not entirely reflective of his argument, especially as he shows how the *Progressive* changes a terminative sentence into a durative one. It is perhaps more accurate to state: the viewpoint aspect and situation aspect distinction is not accounted for in his model, rather than downplaying their ‘theoretically significant role’.

The underlying theme in any unidimensional approach is that viewpoint aspect and situation aspect are not systematically distinguished, and that aspect is reduced down to two unidimensional primitives, like the terminative/durative distinction. However, Verkuyl does not actually reduce viewpoint aspect and situation aspect into a single construct, he rather just excludes viewpoint aspect altogether. It seems fair to say that for Verkuyl aspect is actually just situation aspect. In a different unidimensional approach, de Swart (1998) differs from Verkuyl and although she adopts a viewpoint aspect and situation aspect distinction, this distinction is subsequently relaxed in her analysis:

On the one hand, I keep the distinction between Aktionsart [situation aspect] and grammatical aspect [viewpoint aspect], so that we can study the meaning effects their combination gives rise to. On the other hand, I assume that the model-theoretic notions underlying Aktionsart [situation aspect] and aspect [viewpoint aspect] are the same, and can be captured by introducing states, processes and events as ontological entities into the model.

(de Swart, 1998:348)

Viewpoint aspect and situation aspect are described in the same terms of states, processes and events: ‘stative sentences introduce states, process sentences refer to processes, and event sentences describe events’ (de Swart, 1998:351). de Swart (1998) schematically represents her model as in (17).

(17) [Tense[Aspect*[eventuality description]]]

She follows Verkuyl (1972, 1993) in adopting a compositional approach. At the core of her model is the eventuality description [situation aspect], which refers to states, processes and events. These appear to be defined in terms of homogeneity, as in Borik (2002, 2006). States and processes are homogenous, whilst events are heterogeneous. Aspectual operators (‘Aspect’ in 17) ‘are interpreted as eventuality modifiers, so they map sets of eventualities (of a certain type) onto sets of eventualities (of some possibly other type)’ (de Swart, 1998:349). For de Swart, then, there is no division of labour between viewpoint aspect and situation aspect: they coerce each other. In section 2.2, sentences illustrating the Progressive entailment test showed that the English *Progressive* entails the SP with atelic situations, but not for telic situations, repeated here in (18).

(18) a. Mary was driving the car --> Mary drove the car

b. Mary was running a mile -/-> Mary ran a mile

de Swart argues that there are ‘aspectual operators’ and ‘no aspectual operators’ (or ‘eventuality modifiers’). No aspectual operators are aspectually neutral (i.e. they do not modify eventualities). She argues that the Simple Past (SP) is aspectually neutral and in fact only conveys past time reference, a point Salaberry (2000, 2005, 2008) takes up in proposing the Default Past Tense Hypothesis in SLA, discussed in Chapter 3. The

Progressive and the *Perfect* tenses, however, are argued to be aspectual operators (i.e. they modify eventualities). In her analysis, it is not viewpoint aspect that accounts for the differences in (18), but the difference between aspectual and no aspectual operators. The *Progressive* is an aspectual operator and maps a process onto eventualities. So although (18a) is a ‘process’ and (18b) an ‘event’, in de Swart’s terms, the *Progressive* tense coerces them both into processes. However, because the SP is a no aspectual operator, it does not modify eventualities. Instead, an ‘event’ stays an ‘event’ and a ‘process’ stays a ‘process’ under the SP. So (18a) is a logical entailment because they are both processes, but (18b) is not a logical entailment because the *Progressive* modifies an ‘event’ into a ‘process’, but the SP fails to do the same. Therefore, for de Swart, compositionality appears to apply to both viewpoint aspect and situation aspect. Although they are defined and stated in the same terms, they are not two independent components as seen in section 2.2.1. But rather, they constitute the same system. A question is why she initially states a distinction between viewpoint aspect and situation aspect; after all, her model does not reflect this. It seems, rather, that for de Swart, viewpoint aspect is a grammatical category and not conceptually distinct from situation aspect. Therefore, coercion can only be analysed in languages with grammaticalised viewpoint aspect. A distinction between this view of viewpoint aspect and situation aspect compared to Bertinetto and Smith’s views is that bidimensionalists argue that viewpoint aspect is interpretable in the absence of grammatical viewpoint aspect morphemes, whereas de Swart’s model does not.

2.2.3 Conclusions on unidimensional and bidimensional approaches to aspect

As various unidimensional and bidimensional approaches to aspect have been discussed, it is worth summing up their purported differences and similarities before looking in detail at how aspect is expressed across languages. The aspect models discussed in section 2.2 essentially differ with respect to the independence of viewpoint aspect from situation aspect. Bidimensionalists argue that these are conceptually distinct, defining viewpoint aspect and situation aspect in different terms (e.g. Borik, 2002, 2006; Borik and Reinhart, 2004; Giorgi and Pianesi, 1997). For example, Borik and Giorgi and Pianesi both take a Reference time approach to viewpoint aspect, and then define situation aspect in terms of homogeneity (Borik, 2002, 2006) or endpoints (Giorgi and

Pianesi, 1997). In contrast, viewpoint aspect and Situation aspect have also been defined in the same terms, using the endpoint approach (Bertinetto, 1997, 2001; Depraetere, 1995; Smith, 1991, 1997). These different bidimensionalist approaches agree in arguing for conceptual independence of viewpoint aspect and situation aspect, and indeed the basis for conceptual independence seems more justified when they are defined in different terms. Furthermore, Vendler's classification of situation aspect is arguably the keystone to these models, where lexical semantics is central to bidimensional theories of aspect. Bidimensionalists' use of Vendler's classes along with claims for conceptual independence of aspectual categories is what sets them apart from the unidimensionalists. For example, Verkuyl (1972, 1989, 1993) refuses to incorporate viewpoint aspect into his model, due to its 'subjective' nature. He argues that distinguishing viewpoint aspect from situation aspect plays no 'theoretically significant role'. Furthermore, his refusal of Vendler's situation aspect classification arguably removes the role of lexical semantics from aspect. Instead, his model conceives aspect in terms of structural compositionality, taking into account NPs and verbs in binary terms, such as [\pm ADD TO] and [\pm SQA]. Consequently, theories of time, homogeneity, and endpoints as used by bidimensionalists are reduced to a binary opposition of terminative vs. durative. Adverbials, tense and discourse pragmatics are also excluded from Verkuyl's model. de Swart (1998) also adopts a unidimensional approach, but radically different from Verkuyl's model. She initially accepts the bidimensionalists' labels, even if these are later dropped in her analysis. She also adopts Vendler's situation aspect classifications, up to a point. She argues that aspect is built up compositionally, but not in structural terms. She assigns a role to tense, adverbials, and discourse pragmatics, unlike Verkuyl, and argues that they are all part of the same system. Tenses can coerce situations to a different type; thus, she argues that the English *Progressive* modifies an event into a process. There are more differences between bidimensionalist and unidimensionalist approaches than there are similarities, as would be expected, especially for Verkuyl. de Swart's (1998) adoption of Vendler's situation aspect classifications is a point of agreement with bidimensionalists.

The arguably most important point of agreement between all the aspect models reviewed here is the problematic nature of viewpoint aspect morphemes. They are centrally fixed in

Borik and Giorgi and Pianesi's models, as they define viewpoint aspect and its morphemes together: they are inseparable. Bertinetto and Smith argue for a dissociation between viewpoint aspect and its morphemes, arguing that in the absence of viewpoint aspect morphemes, aspect is still conveyed through interpretation, such as through the discourse context (Bertinetto) or from situation aspect (Bohnenmeyer and Swift, 2004; Smith, 2006). For Verkuyl, viewpoint aspect morphemes are removed from his model to prevent such a complication, and for de Swart, situation aspect shifts can only occur with viewpoint aspect morphemes. Viewpoint aspect morphemes are definitely problematic in current aspect research.

2.3 Aspect across languages

As shown in section 2.2, aspect models disagree about the conceptual independence of viewpoint aspect and situation aspect and about how viewpoint aspect and situation aspect are labelled, but semantic models of aspect use Vendler's classification system in some form. Furthermore, it is generally accepted that Vendler's four-way classification of predicates holds across all natural languages (although see von Stechow and Matthewson, 2008). This supports the notion that situation aspect is a universal property of language (Chung and Timberlake, 1985; Comrie, 1976; Klein, 1994; Smith, 1991, 1997). However, as the discussion in section 2.2 indicated, the status of viewpoint aspect is less clear: is it universal or not? For example, along with Bertinetto (1997, 2001), Bohnemeyer and Swift (2004) and Smith (1991, 1997, 2006), Comrie (1976) suggests that viewpoint aspect is also a universal property of language because it is conveyed with and without viewpoint aspect morphemes:

Just as some languages do not grammaticalise time reference to give tenses, so some languages do not grammaticalise aspectual distinctions. In some forms of German, for instance, namely those where the Simple Past (e.g. *ich ging* 'I went') has been supplanted completely by the Perfect (e.g. *ich bin gegangen* 'I have gone', in these forms of German also 'I went'), there is no grammaticalisation of aspectual distinctions. This does not mean that in these forms of German it is impossible to express the meaning differences that are expressed by means of aspects in those languages that do have aspects.

(Comrie, 1976:07-08)

Comrie's comparison of viewpoint aspect to time reference illustrates his point well. As he argues, not all languages express time reference by tense (e.g. Mandarin Chinese), but they still express time. In this same vein, he argues that not all languages express viewpoint aspect by viewpoint aspect morphemes (e.g. German), but they still express it. The problem for viewpoint aspect is morphology. In other words, what is subject to less agreement and potentially open to considerable crosslinguistic variation is how languages express viewpoint aspect. The viewpoint aspect problem is made even more complex when proponents of a dissociation between viewpoint aspect and its morphemes make statements such as: 'viewpoint aspect is expressed by a grammatical morpheme associated with the main verb of a sentence' (Smith, 1997:66) and 'note that [viewpoint] Aspect is directly conveyed by the various tenses available within any given language' (Bertinetto, 2001:07). Dahl and Velupillai (2008) suggest that natural languages differ considerably in how viewpoint aspect is marked, with certain languages using many different means of expression.

In this section, the point of discussion is how viewpoint aspect is expressed across languages. Three different languages will be the focus of discussion: French, English, and German. This is because they neatly represent different ways of expressing viewpoint aspect. English and French use grammatical morphemes whilst German is completely devoid of grammatical morphemes expressing viewpoint aspect distinctions. Although English and French both make use of viewpoint aspect morphemes, there are differences between them.

2.3.1 French

French conveys viewpoint aspect by morphological and syntactic means. It primarily expresses viewpoint aspect in tense morphology. Viewpoint aspect and time reference as well as other semantic concepts (e.g. mood) are mapped to tense in French (Gosselin, 1996; Labeau, 2005; Vettors, 1996; Wilmet, 2003). Furthermore, viewpoint aspect contrasts are only made in the past tense in French. Salaberry (2008:46) notes the same for Spanish, where 'the perfective-imperfective aspectual opposition is obligatorily grammaticalised in past tense only'. French past tenses that are differentiated with respect

to viewpoint aspect are the perfective *Passé Simple*⁵ and *Passé Composé* and the imperfective *Imparfait*. The *Passé Composé* (PC) is a composed form with a present tense auxiliary (*avoir* ‘have’ or *être* ‘be’) and a past participle (e.g. *J’ai lu, il a lu, vous avez lu*). The *Imparfait* (IMP) is a simple form with the verb and inflectional morphemes (e.g. *je lisais, il lisait, vous lisiez*). The PC and IMP have no situation aspect restrictions, meaning that they are compatible with all situation types: states, activities, accomplishments, and achievements. As the PC is perfective, it presents a situation in its entirety, including the initial and final points, as in (19):

(19) a. Marie a eu un chat
Marie had-PC a cat.

b. Marie a couru un kilometre.
Marie ran-PC a kilometre.

The French sentences in (19) contrast the PC with two different situations: (19a) is atelic (or homogenous) and (19b) is telic (or heterogeneous). The PC presents a perfective viewpoint and interpretation does not differ depending on the situation aspect type. For example, the PC does not shift an atelic to a telic situation, as de Swart (1998) argues for the English *Perfect* tense. In other words, the PC with the stative (19a) conveys that Mary once did have a cat, but she no longer has one. The PC with the accomplishment in (19b) describes that Marie ran and completed a kilometre run. To contrast perfectivity, the French IMP presents a situation without its endpoints, or an open perspective on a situation, consistent with the imperfective viewpoint, as in (20):

(20) a. La mer était calme
‘The sea was-IMP calm’

⁵ The *Passé Simple* is rarely used in spoken French, but still exists in a limited number of discourse types (e.g. formal speeches, storytelling). Research on the French past tenses argues that the *Passé Simple* has been replaced by the *Passé Composé* (e.g. Labeau, 2005; 2009b; Wilmet, 2003). As such, the *Passé Simple* will not be discussed here.

b. L'enfant pleurait

'The child was crying-IMP'

c. Ils bâtissaient une cabine

'They were building-IMP a cabin'

The sentences in (20), from Smith (1997:73), show the IMP with a stative (20a), an activity (20b), and an accomplishment (20c). Firstly, the IMP with a stative (20a) presents a viewpoint absent of its initial and final endpoint, indicating that the situation's conclusion is left unspecified. The IMP with an activity in (20b) indicates the informationally open perspective (i.e. absent of its endpoints) describing a situation, as in (20a). The final sentence is the IMP with an accomplishment (20c) demonstrating the stage property. It describes a situation as unspecified with respect to its conclusion, so that the hearer would not be able to deduce whether or not the cabin was eventually built. (20c) indicates an independence of viewpoint aspect from situation aspect through non-prototypicality: situation aspect is telic but viewpoint aspect is imperfective. The use of the IMP in the sentences in (20) expresses perspectives on situations that are informationally open with conclusions left unspecified. This contrasts with the use of the PC in (19) that expresses situations that are informationally closed or complete including the initial and final point of the situation. Importantly, French grammaticalises viewpoint aspect, with one tense used for perfective viewpoint and a different tense used for imperfective viewpoint. In this respect, French is similar to many other Romance languages, such as Spanish, Catalan and Portuguese.

Syntactic expressions of viewpoint aspect in French are largely used to describe imperfective meanings (e.g. progressive and habitual). These same meanings are expressed with the IMP, but syntactic expressions can arguably assist in stressing or making more overt a particular viewpoint. For progressive meaning, the construction *être en train de* (e.g. *il était en train de jouer au foot* 'he was in the process of playing football') stresses an 'in process' viewpoint. For habitual meaning, the construction *avoir l'habitude de* (e.g. *il avait l'habitude de jouer au foot* 'he had the tendency to play

football’) stresses a habitual viewpoint or repetition. Although the IMP does express these viewpoints, syntactic expressions may be selected to clearly present a specific imperfective viewpoint, such as habituality. This is because the IMP is a general imperfective covering habitual, continuous, and progressive viewpoints, at least. If a speaker wishes to disambiguate between one of these viewpoints, then the syntactic expression may avoid confusion.

2.3.2 German

German differs from languages such as French and Spanish for viewpoint aspect because it is arguably devoid of perfective-imperfective morphemes altogether (Comrie, 1976; Bertinotto, 2001; Bohnemeyer and Swift, 2004). Despite its lack of viewpoint aspect morphemes, German is claimed to still convey viewpoint aspect. It makes use of syntactic means, such as *Verb +am/beim* (‘on/at’) to express progressive meaning, as an example, also referred to as the ‘German Progressive’ (Barrie and Spreng, 2009). It is similar to the English *Progressive* (be +ing) in its use to convey ongoing/progressive viewpoint, as shown in (21).

(21) a. Hans war beim Buch lesen

Hans was-SP at book reading

b. Hans war beim Fußball spielen

Hans was-SP at football playing

The *V+beim* sentences in (21) describe that Hans was in the middle, or in the process of the situation, so in the process of reading a book or playing football. However, unlike the English *Progressive*, the German *V+beim* is restricted to some spoken varieties (e.g. Rhineland, the Ruhr, and Westphalia), and is therefore not considered part of Standard German (Krause, 2002; von Pottelberge, 2004; Theil, 2008).

Now, although German lacks viewpoint aspect morphemes, viewpoint aspect is still conveyed. As discussed in section 2.2, Bohnemeyer and Swift (2004) and Smith (2006)

argue that in languages that lack viewpoint aspect morphemes, viewpoint aspect is interpreted based on situation aspect, or as Bohnemeyer and Swift (2004:266) put it, ‘clauses and verbal projections not overtly marked for viewpoint aspect are assigned viewpoint-aspectual operators on the basis of the telicity of their event predicates’. This means that in the absence of aspectual morphemes atelic predicates entail imperfectivity and telic predicates entail perfectivity. This results in sentences receiving preferential interpretations. For example, accomplishments are interpreted perfectly and statives imperfectly, as in (22).

(22) a. Als ich Marys Büro betrat, schrieb sie einen Brief.

When I entered-SP Mary’s office, she wrote-SP a letter.

b. Als ich Marys Büro betrat, schrieb sie einen Brief. Überrascht blickte sie auf, legte den Stift zur Seite, und lächelte mich an.

When I entered-SP Mary’s office, she was writing-SP a letter. Surprised, she looked-SP up, put-SP the pen away, and smiled-SP at me.

The examples in (22), from Bohnemeyer and Swift (2004:268-9), show viewpoint aspect contrasts for *einen Brief schreiben* (‘write a letter’) despite lacking viewpoint aspect morphemes. *Einen Brief schreiben* is telic and is also interpreted perfectly. For Bohnemeyer and Swift (2004:269), then, (22a) ‘suggests that the writing event’s onset coincided with the entering (at least as this reading is more plausible than the overlap reading) i.e. the writing event is interpreted perfectly’. Therefore (22a) is interpreted perfectly because of the predicate’s telicity. In (22b) *einen Brief schreiben* is still present, and it is still telic. However, *einen Brief schreiben* in (22b) demonstrates that perfective entailment can be cancelled because this time its interpretation is imperfective. This is because with greater contextual detail on the entering event, entering overlaps with letter writing and completion of letter writing is not entailed. Therefore, whilst telicity does seem to entail perfectivity in the absence of viewpoint aspect morphemes, this is only the case if there is no explicit contextual information to the contrary.

Furthermore, in standard German there exists a division between the past tenses in terms of the modes of expression they are typically used in. The Perfekt (composed form, e.g. *ich habe gespielt* ‘I played’) is typically used in spoken German, whilst the Preterit (simple form, *ich spielte* ‘I played’) is typically used in written German (Comrie, 1976; Durrell, Kohl and Loftus, 2002; Ten Cate, 1998; Thieroff, 1992). Therefore, in contrast to French, different tenses are not used for different viewpoint types. Instead, in German different tenses are typically used for different modes of expression.

To summarize, in German, tenses do not mark viewpoint aspect like in French. Instead, viewpoint aspect is interpreted from the predicate’s semantics and the discourse context.

2.3.3 English

Viewpoint aspect in English is expressed by syntactic and morphological means. In terms of morphology, English has a Simple Past tense (e.g. I sat) and syntactically the auxiliaries *be+ing* (e.g. I was sitting) and *used to* (e.g. I used to sit). Bertinetto (1997) and Smith (1997) argue that the Simple Past (SP) is perfective, as in (23):

- (23) a. Lily swam in the pond.
- b. Mrs Ramsey wrote a letter.

The sentences in (23), from Smith (1997:67), express perfectivity because their interpretations ‘are incompatible with an assertion that the event continued’ (Smith, 1997:67). The activity (23a) presents a closed perspective on the situation, which includes its initial and final points, consistent with the perfective viewpoint. The same holds true for (23b). As noted in section 2.3, de Swart (1998) argues for aspectual and no aspectual viewpoint aspect operators. In contrast to Bertinetto and Smith, de Swart argues that the SP lacks viewpoint aspect information; it represents ‘zero’ or ‘neutral’ viewpoint aspect. For de Swart, the SP only conveys temporal information. Smith (1997:67) challenges this, arguing that it is the SP’s semantics that convey perfectivity. She substantiates this by combining SP predicates with predicates incompatible with a closed

interpretation. This test indicates whether perfectivity is conveyed by the SP. If in a sentence an informationally open predicate added to a SP predicate results in contradiction, this suggests the perfective viewpoint is conveyed by the SP. If the conjunctions are not contradictory, then perfective viewpoint is conveyed by the context, as illustrated in (24).

- (24) a. # Lily swam in the pond and she may still be swimming.
b. # Mrs Ramsey wrote a letter and she may still be writing it.

The combined predicates in (24) result in a contradiction. The informationally open predicates (e.g. she may still be writing it) contradict the informationally closed predicates (e.g. wrote a letter). This test shows to Smith that ‘the closed readings are based on the semantic meaning of [the Simple Past]’ and not the context. The SP has also been noted to convey habitual viewpoint (e.g. Montrul, 2008). These sentences in (23) may express perfectivity or habituality. As they stand, it is unclear whether (23a) constitutes a regular event (habitual) or a one-time event (perfective). To disambiguate between perfectivity and habituality with the SP, speakers rely on the discourse context or adverbials (e.g. Lily swam in the pond every day).

Syntactic expressions of viewpoint aspect include progressivity, which in English is conveyed by the auxiliary *be+ing*. It presents a situation as informationally open, not including its initial or final points, as in (25):

- (25) a. George was reading.
b. George was running a mile.
c. *George was knowing the answer.

The sentences in (25) use the auxiliary *be+ing* with different situations to convey progressivity. The activity in (25a) presents a partial perspective on the situation. The hearer is unaware if the reading situation ended or not. As such, the situation’s conclusion is left unspecified. The same holds true with the accomplishment situation type in (25b):

the informationally open feature of the viewpoint leaves unspecified the situation's conclusion. The French IMP and the English *be+ing* are functionally similar when used to express progressive viewpoint, indicated by the use of *be+ing* to translate progressive uses of the IMP. Where they differ, however, is in the nuances of activity, dynamism and vividness expressed by *be+ing* (Smith, 1997:74). *Be+ing* seems to invoke these nuances by stressing the stage property of a situation. For example, in (25b), *be+ing* arguably stresses the different internal stages of mile running. In situation types lacking the stage property, as in states, then *be+ing* is ungrammatical, as in (25c). Therefore, the IMP differs from *be+ing* by lacking nuances of activity and vividness.

The syntactic phrase *used to*, *would* as well as the SP are traditionally considered as markers of habitual viewpoint in English (Comrie, 1976; Brinton, 1988; Dahl, 1985; Jespersen, 1961; Tagliamonte and Lawrence, 2000; Traugott, 1972), as in (26):

- (26) a. Tony used to play football.
- b. Tony would play football.
- c. Tony played football.

The auxiliary *used to* (26a) and *would* (26b) are used to convey habituality with past time reference. The same may be argued for the SP (16c). At the time of writing, there has still been no extensive research carried out on markers of habitual aspect in English, so many debates especially over the status of *used to* and the SP to mark habitual viewpoint continue (for an overview, see: Tagliamonte and Lawrence, 2000). For Binnick (2005), the only marker of habitual viewpoint in English is *will*, and *would* in the past. He claims that *used to* does not 'report a habit in the past [... but rather contrasts] the present state of affairs with those obtaining in the immediate past' (Binnick, 2005:351). Binnick would argue that the sentence in (26a) separates past from present, rather than reporting a habit. He also argues that the SP does not report habit either, because it 'requires some temporal and/or contextual specification for [a habitual] reading' (Quirk and Greenbaum, 1972; in Binnick, 2005: 352). Therefore, although the SP may receive a habitual interpretation due to additional information in the sentence, Binnick claims that it does not have habitual

meaning itself. In other words, for Binnick it is the context and cotext that are said to provide habitual meaning to the SP. In contrast, Quirk and Greenbaum (1972:43) claim that *used to*, *would* and the SP are alternating forms that can be used to convey habituality. To this end, Tagliamonte and Lawrence (2000) show how habitual forms can be alternated in English with no apparent differences in meaning, as in (27)

(27) Well we *used to go* [/went] every week. It was one of those things we *did* [/used to do] every week.

In (27), from Tagliamonte and Lawrence (2000:325), they note that ‘went’ could be used instead of ‘used to go’ and ‘used to do’ could replace ‘did’ leading to no ‘apparent change in meaning’. In a study based on conversation data of British English with 92 speakers (totalling approximately 1.5 million words), Tagliamonte and Lawrence (2000) report on how the SP, *used to* and *would* are used in English to convey habitual viewpoint. The results show that ‘the vast majority, nearly 70 per cent, of all habitual past contexts in English are realized with preterit morphology [the SP]. This contrasts with the picture one gets from the literature where only *used to* and/or *would* are cited as habitual past markers’ (Tagliamonte and Lawrence, 2000:329). Their results contrast with Binnick’s (2005) claims by showing that *would* is the least used marker of habitual viewpoint (6%) in their British English corpus. *Used to* is used comparatively more than *would* in past habitual contexts at 19%. They also note that there are specific contexts which favour the use of a particular habitual marker:

used to is used in affirmative sentences, with first-person subjects, and nonstative verbs, while the preterit is used for negative constructions, with indefinite and inanimate subjects, and stative verbs. *Would*, on the other hand, is concentrated in contexts of short duration, typically within a sequence of habitual past sentences, and tends to occur with third-person subjects.

(Tagliamonte and Lawrence, 2000:349)

Despite claims that the only marker of habitual viewpoint in English is *would* (Binnick, 2005), Tagliamonte and Lawrence’s (2000) corpus study shows that in past habitual contexts all forms are used, with the SP being the most frequent habitual marker in English. Furthermore, their study was able to indicate specific contexts which favour

particular habitual markers. Therefore, despite the general lack of consensus on habitual markers in English, Tagliamonte and Lawrence's study provides compelling data to suggest that all three forms (the *SP*, *used to* and *would*) are markers of habitual viewpoint in English.

2.4 Conclusion

The focus of this chapter has been aspect theory and how theoretical models account for the different ways in which aspect is marked crosslinguistically. In the first part, unidimensional and bidimensional approaches to aspect were discussed.

Bidimensionalists argue for two independent aspectual components, viewpoint aspect and situation aspect, whilst unidimensionalists collapse these components into a single semantic construal. Furthermore, aspect models are not only proposed in semantic terms, but also in terms of logical structure (e.g. Verkuyl, 1972, 1993, 1999). A large part of this chapter has dealt with viewpoint aspect in the absence of viewpoint aspect morphemes. Some models are unable to dissociate morphology from viewpoint aspect (e.g. Borik, 2002, 2006; Giorgi and Pianesi, 1997) because the tools used to define viewpoint aspect are the same as the ones used to define tense. However, other models argue for viewpoint aspect in the absence of morphemes, in which case it is interpreted from situation aspect or the context. In section 2.2, it was argued that viewpoint aspect in the absence of morphemes is clearly a contention for bidimensionalists. Naturally, if viewpoint aspect is interpreted from situation aspect then their conceptual independence becomes questionable. This is a testable hypothesis and further research will be able to indicate the difference between viewpoint aspect conveyed by morphemes and viewpoint aspect interpreted from situation aspect, if any. Models demonstrating that viewpoint aspect is interpretable (e.g. Bohnemeyer and Swift, 2004; Smith, 2006) are used to account for viewpoint aspect marking in languages like German. German was contrasted with English and French in the second part of this chapter in showing how viewpoint aspect is marked in different ways, such as morphological and syntactic means. The discussion showed that although the three different languages differ in their marking of viewpoint aspect, they can all convey it.

This chapter has laid the theoretical foundations of aspect for this thesis. As indicated in section 2.1, a bidimensional approach to aspect will be adopted, following Bertinetto (1997, 2001) and Smith (1991, 1997, 2006). These particular models are adopted because of how they deal with (a) the universality and (b) the crosslinguistic variation of aspect. Importantly, Bertinetto and Smith claim that even though aspect may not be always conveyed by explicit aspectual morphemes, it is still nonetheless conveyed (e.g. by discourse pragmatics). As for Borik and Giorgi and Pianesi, although they clearly define viewpoint aspect differently to situation aspect, aspect as a concept is tightly tied down to tense. As such, semantics and morphology are intrinsically linked in these models, following Bertinetto and Bianchi's (2003) 'morphological bet'. In contrast, Bertinetto's (1997, 2001) and Smith's (1991, 1997, 2006) models dissociate viewpoint aspect from its morphemes, indicating viewpoint aspect's universality alongside situation aspect. In this thesis, the acquisition of aspect by second language (L2) learners of different L1 backgrounds is investigated. The ways in which different languages mark aspect is therefore important, such as languages with aspectual morphemes (English and French) and languages without (German).

Chapter 3. The Development of Aspect

3.1 Introduction

According to Mitchell and Myles (2004:131), functional approaches to second language acquisition (SLA) have been ‘centrally concerned with the ways in which second language learners set about making meaning, and achieving their personal communicative goals’. Slabakova (2008:01) argues this point further, stating that ‘few people start learning a second language for the exotic sounds or for the elegant sentence structure that they detect in it. *Meaning* is what we are all after. We would all like to understand and to be able to convey thoughts and feelings and observations’. Making meaning or learning how to mean in a second language (L2) involves understanding and producing sentences, which may be problematic even after extensive exposure to the L2 (e.g. Coppieters, 1987; Hawkins and Hattori, 2006; Lardiere, 1998a, 1998b 2000, 2005). For instance, Coppieters (1987) found that near-native speakers of French who had acquired native-like use of the French past tenses (IMP and PC) differed significantly from native-speakers in the meanings they associated to these tenses. Coppieters’ seminal study highlights differences between the production (or use) and comprehension (or interpretation) of sentences by L2 learners.

This chapter takes the theoretical discussions of aspect theory from Chapter 2 and looks at how they have been applied and investigated in L2 development, with particular reference to the bidimensional approach to aspect (Bertinetto, 1997, 2001; Depraetere, 1995; Smith, 1997), in which it is argued that viewpoint aspect and situation aspect are conceptually independent from each other. In this chapter, then, I critically review research on the L2 development of aspect. In particular, I focus on two factors that have been argued to significantly influence L2 development: (1) a learner’s first language background and (2) prototypes. The extent to which a learner’s first language (L1) influences L2 development has long been central to SLA research (e.g. Jarvis, 2011; Jarvis and Pavlenko, 2008; Long and Sato, 1984; Odlin, 1989, 2003, 2005; Ringbom, 2007; Schwartz and Sprouse, 1994, 1996; Stockwell, Bowen and Martin, 1965). It has also been extensively argued that semantic prototypes (as discussed in Chapter 2)

significantly influence L2 development (e.g. Andersen and Shirai, 1994, 1996; Bardovi-Harlig, 1994, 1999, 2000; Comajoan, 2006; Shirai, 2004, 2009). In this chapter, the L2 development of viewpoint aspect will be reviewed in relation to L1 influence and semantic prototypes.

I review the theoretical SLA literature on L1 background and semantic prototype influence and then turn to empirical studies specifically investigating these influences in L2 development. This begins in section 3.2 on L1 background. According to Slabakova (2002:185), ‘the effect of a learner’s native language on his or her acquisition of aspectual properties in a second language has been curiously neglected so far’. Recently, however, SLA research on L1 influence has turned to comparisons between L1 and L2 form-meaning pairings for aspect, addressing how L1 - L2 differences may influence L2 development (e.g. Clahsen, Martsoukou and Stavrakaki, 2010; Domínguez, Arche and Myles, 2011; Gabriele, 2005, 2009; Gabriele and Canales, 2010; Montrul and Slabakova, 2002, 2003; Slabakova, 2000, 2008). In section 3.3, the role played by semantic prototypes on L2 development is reviewed. The most widely discussed and investigated hypothesis on semantic prototype influence is the Aspect Hypothesis (Andersen and Shirai, 1994, 1996), which has generated findings both in support of (e.g. Comajoan, 2006) and against (e.g. Labeau, 2005) its proposals. Consequently, some researchers (e.g. Ayoun and Salaberry, 2005) have acknowledged that semantic prototypes influence L2 development, but not in the ways proposed by the Aspect Hypothesis.

The studies reviewed in this chapter are selected following three criteria. Firstly, as the focus of this chapter, and this thesis more generally, concerns L2 development, studies documenting L2 development over time are selected. This means that only longitudinal and cross-sectional studies are reviewed. Secondly, this thesis concerns the acquisition of French L2 (as outlined in Chapter 1, but more specifically in Chapter 4). Therefore, preference is given to studies involving Romance languages (e.g. French, Spanish). Lastly, studies investigating the role played by L1 background and semantic prototypes on L2 development are specifically selected.

3.2 L1 Background

The extent to which a learner's L1 background influences L2 development has been labelled in a variety of ways, such as cross-linguistic influence, L1 transfer, L1 influence, native language influence, and interference (Odlin, 1989, 2003; Ortega, 2009). However, Odlin (1989, 2003, 2005) claims that despite different labels, L1 transfer can be typically defined as 'the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired' (Odlin, 1989:27). Furthermore, he adds that 'language transfer affects all linguistic subsystems including pragmatics and rhetoric, semantics, syntax, morphology, phonology, phonetics, and orthography' (Odlin, 2003:437). Researchers have also identified different types of L1 transfer, largely between (a) 'conceptual transfer' (e.g. Odlin, 2003, 2005; Jarvis and Pavlenko, 2008) and (b) 'linguistic transfer' (e.g. Schwartz and Sprouse, 1994, 1996). For Jarvis (2011), conceptual transfer is rooted in theories of cognitive linguistics (e.g. Langacker, 2008; Talmy, 2000) and concerns 'the nature of mental concepts' in terms of how concepts differ between languages and subsequently shape L2 development. An underlying theme central to research in conceptual transfer assumes that languages differ in conceptual structure. For example, languages such as French and English are said to differ for the concept *know*. In French, *connaître* is said to be different from *savoir*, whereas in English *know* encompasses the meanings of both *connaître* and *savoir*. *Savoir* is used to refer to knowing how to do something, such as an ability to perform an action (e.g. *Je sais cuisinier* 'I know how to cook', *je sais conduire* 'I know how to drive'), whereas *connaître* is used for knowing something personally (e.g. *Je connais le chemin* 'I know the way', *je connais ta sœur* 'I know your sister'). English does not distinguish between different types of *know*. The observation that French distinguishes between different types of *know* and English does not is said to be due to conceptual differences between the languages (Odlin, 2003). Conceptual transfer, then, 'refers to the hypothesis that certain instances of cross-linguistic influence in a person's use of one language originate from the mental concepts and patterns of conceptualization that the person has acquired as a speaker of another language' (Jarvis, 2011:03). The implication that languages differ not only in terms of their surface structure, but also in their conceptual structure seems plausible and suggests a clear and direct form-meaning

relationship. In the case of *know* in French, *connaître* has a different form-meaning pairing to *savoir*. However, the extent to which languages are conceptually different from each other has to be questioned, and this question was addressed in Chapter 2 with respect to viewpoint aspect. It was noted that in some languages (e.g. French and English) viewpoint aspect is mapped to morphemes, whereas in other languages (e.g. German) viewpoint aspect is interpreted from situation aspect. The question that arose was whether there is a difference between viewpoint aspect marked by explicit morphemes and viewpoint aspect interpreted from situation aspect. The difference here appears to lie in cross-linguistic variation. It was argued that all natural languages are able to convey the same viewpoint aspect meanings, but they differ in how they do it. The differences between languages appear to be in how they map meanings to forms, and this is subject to considerable cross-linguistic variation: languages appear not to differ in their conceptualisation of viewpoint aspect, but in the ways viewpoint aspect is mapped to forms. Conceptual transfer, then, appears to posit a close relationship between meanings and forms and as it was argued in Chapter 2 (i.e. ‘the morphological bet’), the differences between meanings and forms need to be clearly stated in order to avoid confusion.

In a different approach to L1 transfer, research has investigated the ways in which the same meaning is marked in the L1 compared with the L2. In early SLA research, differences between languages were argued to be responsible for difficulties in L2 development, referred to as the Contrastive Analysis hypothesis (Lado, 1957; Stockwell, Bowen and Martin, 1965; Weinrich, 1963). It was believed that systematic comparisons of language pairs would allow L1 influence to be predicted and therefore researchers and teachers would be able to pre-empt learner difficulty. For example, Lado (1957:73-74) argued for analyses on ‘structure, pattern by pattern’, such as English versus Spanish ‘question patterns’. However, it soon became clear that cross-linguistic analyses were not enough to be able to predict difficulties: predicted difficulties did not occur whilst unpredicted difficulties did occur (Gass, 1996; Jarvis and Odlin, 2000; Odlin, 1989, 2003, 2005; Ortega, 2009). Consequently, Contrastive Analysis was largely abandoned. At the time Lado pursued Contrastive Analysis, linguistic theory in general was far less developed than it is today. This is most evident from Lado’s (1957) comparison of the

very general ‘question patterns’, which by today’s standards would be further refined into yes-no questions, (long-distance and short-distance) wh-questions, constraints on wh-movement and embedded/long-distance questions, at least (Wright, 2010). Developments in linguistic theory (e.g. Chomsky, 1995, 1998, 2000), in particular generative syntactic theory, have allowed for a second birth in Contrastive Analysis.

Current theories of L1 influence in L2 development, such as the Feature Re-assembly Hypothesis (Lardiere, 2003, 2005, 2008, 2009), are determined, in part, by Schwartz and Sprouse’s (1994, 1996) full transfer proposal for the initial state in SLA. According to Schwartz and Sprouse, an L2 learner’s L1 grammar initially constrains their hypotheses about the L2. This means that learners initially account for L2 input with their L1 grammar: the initial state in SLA is the steady-state L1 grammar. The consequence of this hypothesis in SLA is initial L1 transfer. This is especially relevant when the L1 differs from the L2 with respect to the same meaning (e.g. viewpoint aspect or time reference). For example, meaning X is marked one way in the L1 and it is marked in a different way in the L2. These different crosslinguistic means of marking the same meaning result in initial L1 transfer, according to Schwartz and Sprouse (1994, 1996)⁶. SLA theory beyond the initial-state has investigated the role of L1 knowledge in L2 development, such as drawing specific L1-L2 comparisons for how a particular meaning is marked.

One perspective on L1 influence in L2 development centres on how learners deal with L1-L2 differences in the pairing of form and meaning. Contributors to this discussion argue over the extent to which L1 form-meaning pairings can be remapped in SLA. In other words, can L2 learners establish form-meaning pairings that are different from their L1? Lardiere (2003, 2005, 2008, 2009) argues that although L2 development is initially influenced by learners’ L1, it is nonetheless possible for L1 form-meaning pairings to be remapped in the L2. L2 learners have already established form-meaning pairings in their L1 which may need remapping in the L2. Therefore, L2 development, as Lardiere sees it,

⁶ Note that in proposing that L2 learners’ transfer their L1 means of marking meaning X, the underlying assumption is that the L1 and L2 share meaning X. What differs between the L1 and the L2 is how this meaning is marked. In other words, the L1 and the L2 differ in terms of form-meaning pairings for the same meaning.

does not require L2 learners to acquire new meanings, but rather it ‘involves the learner figuring out’ how existing meanings are marked in the L2 (Lardiere, 2009:187).

Therefore, the L2 learning task concerns the mapping of existing meanings (also used in the L1) to new (and possibly different) forms in the L2. According to Lardiere (2009:175), mapping existing L1 form-meaning pairings in the L2 constitutes a ‘formidable learning task’.

It could be argued that the well-documented variability (or optionality) in the use of (verbal and nominal) inflections and lexical items are due to ‘mapping problems’ (Lardiere, 2000; Slabakova, 2008). However, there are claimed to be different explanations for what underlies variability in the use of inflections and lexical items. On the one hand, variability is claimed to reflect a breakdown in grammatical representation (e.g. Vainikka and Young-Scholten, 1994, 1996a, 1996b, 1998), meaning that absent surface morphological realizations (e.g. –s and –ed) reflect corresponding absent morphosyntactic features (e.g. \pm tense \pm past) in grammatical representation. On the other hand, variability is claimed to reflect a breakdown in computation (e.g. Prévost and White, 1999, 2000), meaning that abstract grammatical structure is present but variability is due to ‘a breakdown in the relationship between one part of the grammar and another, such that the learner cannot always access the relevant morphology even when it has been acquired’ (White, 2003:179). However, despite the grammatical representation being present, this does not imply that the relevant morphology is also present. Learning the forms and mapping them represents the variability.

In both approaches to variability, then, L1 influence is involved whether it be acquiring the native-like grammatical representation of the L2 or working out how to map grammatical representation to form in the L2.

3.2.1 Empirical studies on L1 background

SLA aspect studies investigating L1 influence have compared L1–L2 differences for viewpoint aspect in terms of how meaning and form are paired. This approach to L2

development aims to investigate what may be straightforward and what may be more difficult for L2 learners (e.g. Ayoun, 2005, Domínguez, Arche and Myles, 2011; Montrul and Slabakova, 2002; 2003; Slabakova and Montrul, 2002, 2003). As argued by Lardiere (2008, 2009), studies generally indicate that difficulties arise when L2 learners are required to establish form-meaning connections that are different from their L1 (Ayoun, 2004; Salaberry, 2008; Slabakova and Montrul, 2003). Montrul and Slabakova (2003:188-189) suggest that L2 development may be initially characterised by learners' overgeneralizing L1 form: 'it is possible for English-speaking learners of Spanish, based on analogy of viewpoint aspect meanings, to map the Imperfect tense on their native progressive tense and the Preterite on their native past simple'. Salaberry (2008:209) points out that although this is indeed 'a possible working hypothesis'; 'this hypothesis can only go so far because there are some aspectual meanings represented in the Imperfect that are not represented in the progressive in English' (Salaberry, 2008:209). This account of L1-L2 mapping is plausible, because in English viewpoint aspect is mapped to tense (see Chapter 2), so it seems logical to predict L1 transfer to Spanish L2, especially if L2 learners try to mark the same meaning in the L2 as it is done in the L1, as Lardiere (2009) and Montrul and Slabakova (2003) suggest. In addition, L1 transfer in this 'working hypothesis' learning situation would be initially beneficial because Spanish also maps viewpoint aspect to tense. However, although it seems plausible that learners may look for L1-L2 correspondences, it is not obvious why, according to Montrul and Slabakova (2003), learners would initially select the Imperfect over any other tense to map onto their L1 *Progressive* tense. For example, if the learner searches for 'morpholexical correspondences in the L2 to those in their L1' (Lardiere, 2009:191), then as the English *Progressive* is a composed form/periphrasis (be +Ving), it may be plausible to suggest English-speaking learners map the *Progressive*'s meaning onto a composed form in the L2 (such as the Spanish *Progressive*). However, according to Montrul and Slabakova (2003), this appears not to be the case.

Gabriele, Martohardjono and McClure (2003, 2005) and Gabriele and Martohardjono, (2005) also argue for the overgeneralization of L1 form. They investigated the L2 development of viewpoint aspect in English and Japanese, comparing forms denoting

progressive viewpoint in English (*be+ Ving*) and Japanese (*te-iru*), which apparently interact differently with different situation types (see Kageyama, 1996; McClure, 1995; Ogiwara, 1998, 1999). For example, *be+ Ving* interacts similarly with activities, accomplishments, and achievements and denotes progressive viewpoint. However, for *te-iru*, whilst its use with activities and accomplishments denotes progressivity, perfective viewpoint is conveyed when used with achievements. Their study focused on Japanese-speaking learners' interpretations of the *Past Progressive* and the SP in English L2 with activities, accomplishments and achievements. Learners were divided into two different 'proficiency' groups based on their feedback to a background questionnaire: an intermediate group (n=38) and an advanced group (n=45), in addition to a control group of English native speakers. A *Sentence Interpretation task* was used (see Chapter 4 for discussion of interpretation tasks in SLA research). Learners were presented with two sentences and had to judge whether the second sentence presented a possible continuation of the first, as in (1) and (2).

- (1) My niece sang 2 Christmas songs at church. She left church after the first song.
- (2) My niece was singing 2 Christmas songs at church. She left after the first song.

Gabriele, Martohardjono and McClure (2003) predicted that NS would reject (1) but accept (2), because 'sang' entails a complete event (perfective) whereas 'was singing' does not entail event completion (imperfective). Therefore, it is possible for (2) to hold true because the niece intended to sing two songs but only actually sang one.

The results show differences between use of the SP and the *Past Progressive*. For both tenses, there were no significant differences between (1) activities and (2) telic situation types. Furthermore, advanced learners did not differ significantly from NS for the SP. However, for the *Past Progressive*, advanced learners performed significantly differently from NS ($p < .001$). Overall, learners performed significantly more native-like with the SP than with the *Past Progressive* ($p < .001$). The authors claim that the *Past Progressive* poses more difficulties to learners than the SP because of a L1-L2 form-meaning mismatch:

When there is a match between form and meaning in the L1 and L2, as in the simple past, acquisition proceeds with relative ease. However, when there is a mismatch between form and meaning in the L1 and L2, as in the past progressive, even advanced learners have difficulty

(Gabriele, Martohardjono and McClure, 2003:99)

Gabriele Martohardjono and McClure (2003:99) suggest that Japanese learners ‘overgeneralized the perfective interpretation of the L1 form *te-iru*’ to the *Past Progressive* by always associating it with perfective viewpoint, irrespective of situation type. Furthermore, they claim that perfectivity is the default interpretation of *te-iru*. In other words, the *Past Progressive* is associated with perfectivity because the default interpretation of its L1 counterpart is also perfectivity. Their discussion culminates in suggesting that learners initially transfer the ways in which their L1 pairs forms with meanings for viewpoint aspect. Sometimes this works, as found for the SP, and sometimes it fails, as found for the *Past Progressive*. Furthermore, Gabriele (2009) found that low and intermediate Japanese learners of English L2 also associated perfectivity with the *Present Progressive*. However, advanced learners performed like NSs assigning progressivity to the *Present Progressive*. Therefore, although Japanese learners show initial L1 influence (i.e. associating the *Past Progressive* with perfectivity), the results indicate that when the L1 differs from the L2 in terms of how viewpoint aspect is mapped, learners are not constrained by their L1 mappings. Rather, learners are able to remap viewpoint aspect in the L2 (i.e. progressivity is remapped to the *Progressive*). Yamazaki-Hasegawa (2009) conducted a similar study with Japanese learners of English L2 at four different levels of proficiency. These findings are largely consistent with Gabriele, Martohardjono and McClure (2003), but differences between groups were found for the interpretations of *be+ Ving* with achievements. Intermediate and advanced learners correctly assigned progressive viewpoint to *be+ Ving* with activities and accomplishments, but only advanced learners extended this to achievements. Intermediate learners interpreted *be+ Ving* with achievements as perfective. Yamazaki-Hasegawa’s results indicate overgeneralization of L1 form by intermediate learners because they interpreted *be+ing* differently according to the situation type of the predicate, as in their native Japanese. Results from the *Present Progressive* (Gabriele,

2009) and the *Past Progressive* (Gabriele, Matohardjono and McClure, 2003; Yamazaki-Hasegawa, 2009) support Lardiere's proposal that learners initially transfer L1 form-meaning pairings to the L2, but L1 form-meaning pairings are reconfigured to the L2 as proficiency increases.

In line with Gabriele, Salaberry (1999, 2002, 2003, 2005, 2008) also claims that learners initially transfer L1 form-meaning pairings in L2 development. Salaberry claims that learners (especially English-speaking university learners of Spanish L2) first use perfective viewpoint forms (e.g. Spanish Preterit), referred to as the Default Past Tense Hypothesis (DPTH). He argues that 'learners will first mark tense rather than aspectual distinctions. This is mostly a consequence of the fact that in English the Simple Past marks only tense [sic], but not aspect' (Salaberry, 2008:120). As noted in Chapter 2, Salaberry's proposal builds on de Swart's claim that the English SP is a marker of past temporal reference and not viewpoint aspect. A weakness in the DPTH may come from assuming the English SP is 'aspectually neutral' (de Swart, 1998), especially in light of evidence showing that the SP marks perfectivity (see Chapter 2 and Smith, 1991, 1997). For Salaberry, English-speaking learners transfer the SP's meaning(s) to the Spanish Preterit and therefore use the Spanish Preterit to mark past temporal reference (and not viewpoint). To support this hypothesis, he shows that at the lowest level of proficiency, learners 'never used the imperfect' even after explicit instruction on it (Salaberry: 2005:21). Salaberry (2002, 2003) also reported that the Spanish Preterit is initially used across situation types. He concludes that 'English speakers in particular may be highly dependent on L1 transfer' (Salaberry, 2008:141). Although in light of Gabriele's findings L1 transfer seems initially prevalent in L2 development, it is not clear why Salaberry singles out English speakers to be more dependent on L1 transfer than learners of any other L1 background. Although the wider implications of the DPTH are not openly discussed by Salaberry (2005, 2008), his suggestion that English-speaking learners of Spanish L2 transfer their L1 form-meaning pairings (in particular mapping the SP onto the Spanish Preterit) goes beyond the English-Spanish learning situation. The implication appears to be that L2 learners transfer their L1 form-meaning pairings by looking for

similarities between the L1 and the L2, in line with Lardiere's (2009) proposal. That is, then, English speakers map the English SP onto the Spanish Preterit.

For the L2 development of viewpoint aspect, L1 transfer appears to both aid and impede the learner. Gabriele's data have shown that her Japanese learners attribute perfective viewpoint to English *Progressive* forms and Salaberry has shown that English-speaking learners of Spanish L2 overgeneralise the English SP to the Spanish Preterit. However, studies indicate that learners develop beyond these initial overgeneralizations as proficiency increases and show native-like form-meaning pairings in the L2. For Slabakova (2008) the development of viewpoint aspect at the later stages of L2 development resides principally in functional morphology. As she puts it, 'there are "tight places" in the flow of L2 development and there are more "fluid" domains' (Slabakova, 2008:12). She notes one type of learning situation in particular:

In one type of learning situation, illustrated in Montrul and Slabakova (2002), the challenge for learners lies at the syntax-semantics interface. A number of meaning primitives (habitual action, ongoing action, etc) are subsumed in one aspectual tense morpheme, while another array of meanings pertains to its apparent equivalent in the target language. In this learning situation, which I call Simple Syntax – Complex Semantics, both initial transfer from the native language and subsequent incremental development reaching native levels are attested.

(Slabakova, 2008:13)

Montrul and Slabakova (2002) set out to investigate the connections between acquisition of morphology and the interpretive properties of aspectual distinctions in Spanish L2. Interpretation data are collected from 71 English-speaking adult learners and a control group of Spanish NS. An independent measure of proficiency established two significantly different learner groups ($p < .001$): intermediate learners ($n=42$) and advanced learners ($n=29$). Two tasks were administered to learners. Firstly: a Morphology Test, based on Salaberry (1997), consisted of a written text with 30 blanks. For each blank, participants were provided Imperfect (imperfective) and Preterit (perfective) forms and had to select the correct one. This task was designed to see if learners could appropriately select between two forms. Advanced learners performed significantly more accurately than intermediate learners in the Morphology Test ($p < .001$).

Montrul and Slabakova (2002:26) then tested the relationship between morphology and semantics to see if ‘knowledge of morphology [is] related to the semantic implications of these tenses’ by re-examining the Morphology Test results⁷. Learners were split into two groups: those scoring over 80% (more than 24/30 in the test) in one group: Yes Morphology (n=46); and those scoring below 75% (less than 23/30 in the test) in a different group: No Morphology (n=25)⁸. All advanced learners except one were in Yes Morphology, whilst intermediate learners were split between Yes Morphology (n=18) and No Morphology (n=24). This regrouping established four groups: NS, Advanced, Yes Morphology and No Morphology. The Morphology Test was implemented to separate intermediate learners demonstrating ‘knowledge of morphology’ (Yes Morphology group) from intermediate learners that failed to demonstrate it (No Morphology group).

Secondly, a Sentence Conjunction Task, based on Slabakova (1997) was used, in which participants judged the felicity of two joined clauses, as shown in (3) and (4).

(3) La clase era a las 10 pero empezó a las 10:30.

The class was-impf at 10 but started-perf at 10.30.

(4) La clase fue a las 10 pero empezó a las 10:30.

The class was-perf at 10 but started-perf at 10.30.

In (3) the use of the Imperfect in the first clause allows the meaning of the second clause to hold. Together they are felicitous because of the unboundedness of the Imperfect. However, in (4) the two Preterits conflict with each other and both clauses cannot hold together. They are non-felicitous because of the boundedness of the Preterit. However, although (3) and (4) conflict in terms of felicity, they are both nonetheless well formed. The task alternated the tense (and the viewpoint type) in the first clause, investigating

⁷ Note that ‘knowledge of morphology’ is determined by selecting between two well-formed tenses in context. This measure of morphological knowledge is discussed further down.

⁸ The Yes Morphology group is not significantly different from the No Morphology group ($p < .06$).

progressive (Imperfect) and perfective (Preterit) viewpoints. This task was used to see if learners showed awareness of the meaning implications of the Imperfect and Preterit.

Results from the Sentence Conjunction Task show that contrasts between Preterit and Imperfect morphology with accomplishments were statistically significantly different for all groups ($p < .001$). For achievements and statives, significant contrasts were found for all groups except the No Morphology group ($p < .001$). Montrul and Slabakova conclude that learners in the advanced group appear to have acquired the semantic implications of the Preterit and Imperfect in Spanish. However, learners in the No Morphology group ‘are not yet sensitive to the semantic contrasts between these tenses, especially with achievement and state predicates’ (Montrul and Slabakova, 2002:31). Results from these tasks indicate that learners differ in terms of whether or not they have acquired morphological contrasts. These are shown in Table 3.1 (from Montrul and Slabakova, 2002:33).

	Accomplishments	Achievements	Statives
NS (n=23)	100 (23)	100 (23)	100 (23)
Advanced (n=29)	72 (21)	62 (18)	69 (20)
Intermediate-Yes Morph. (n=18)	11 (2)	22 (4)	11 (2)
Intermediate-No Morph. (n=24)	0 (0)	0 (0)	0 (0)

Table 3.1: Learners’ acquisition of morphological and semantic contrasts in per cent in Montrul and Slabakova (2002)⁹

Table 3.1 shows that NSs and advanced learners, who scored over 80% in the Morphology Test, not only have acquired the morphological contrasts but largely also the semantic ones with all the situation types tested. However, intermediate learners contrast sharply with advanced learners and NSs. Only a small proportion of intermediate learners in Yes Morphology have acquired both morphological and semantic contrasts with all situation types. The majority of learners in this group have acquired morphological

⁹ Raw scores are given in brackets.

contrasts, but not semantic contrasts. As for learners in No Morphology, they have neither acquired morphological nor semantic contrasts. According to Montrul and Slabakova (2002:34), 'these results suggest that acquisition of morphology precedes acquisition of semantics, and that both are gradual developments'. By 'acquisition of semantics', Montrul and Slabakova (2002:35) mean the 'semantic contrast between the two tenses [Preterit and Imperfect]'. Montrul and Slabakova (2002) argue for a relationship between morphology and semantics. Intermediate learners were split between Yes and No Morphology groups, but the Yes Morphology group was not significantly different from the No Morphology group ($p < .06$). Yet the test to distinguish the Yes from the No Morphology groups was a 'measure of morphological knowledge'. It is not only difficult to understand why Yes and No Morphology groups were created when they do not differ significantly, but Montrul and Slabakova's conclusion as to morphology preceding semantics is immediately questionable. This is because in the intermediate group the Yes Morphology group was not significantly different to the No Morphology group.

In addition, the syntactic approach (Giorgi and Pianesi, 1997) Montrul and Slabakova adopt claims that learners are required to map the functional features [\pm perfective] of the functional category Asp to overt tense morphology: mapping [+ perfective] to the Preterit and [-perfective] to the Imperfect. English speakers also need to acquire a new feature not already present in their L1 [-perfective], according to Montrul and Slabakova (2002). Therefore native-like use of the Preterit assumes that the functional feature [+perfective] has been mapped to it and the same for Imperfect and [-perfective]. Advanced learners in Montrul and Slabakova's study showed knowledge of morphological contrasts and semantic contrasts, indicating they have acquired the [-perfective] feature value not instantiated in their L1. Therefore, L2 learners are not wholly constrained by their L1. Intermediate learners, however, did not show knowledge of morphology as strong as advanced learners. In cases where morphology had been acquired (Yes Morphology), semantic contrasts were developing; but in cases where morphology had not been acquired (No Morphology), semantic contrasts were absent. Montrul and Slabakova suggest that intermediate learners in Yes Morphology showed relatively few semantic

contrasts because [-perfective] is absent from their interlanguage (IL) grammar: for semantic contrasts to be made, two features are required: [\pm perfective]¹⁰. Montrul and Slabakova (2002) also suggest that acquisition of Imperfect morphology triggers acquisition of the [-perfective] feature value (not present in English speakers' L1 grammar). In sum, their study indicates that learners are initially influenced by their L1 form-meaning pairings, but over time meanings that are mapped differently between the L1 and the L2 can be remapped to the correct surface morphology in the L2.

Domínguez, Arche and Myles' (2011) study can be considered to build on Montrul and Slabakova's (2003) findings by triangulating elicited production and experimental data-collection procedures (see Chapter 4 for discussion of different data-collection procedures in SLA research). Domínguez, Arche and Myles investigated the development of viewpoint aspect in Spanish L2 by sixty English-speaking learners at different levels of proficiency (20 beginners, 20 intermediate and 20 advanced). They report on the acquisition of the Spanish Imperfect in a *Sentence Interpretation task* (although see Arche, Domínguez and Myles (2010), Domínguez, Arche and Myles (2010) and www.spiloc.soton.ac.uk for the range of tasks used in the project). The *Sentence Interpretation task* provided learners with a particular viewpoint context (e.g. habitual) in English along with two Spanish test sentences. Learners were asked to rate each sentence on a five-point Likert scale (-2 -1 0 +1 +2) in terms of how appropriately it described the context, as shown in (5).

(5) When Ana was a child she had a very close friend, Amy, and she liked to spend a lot of time at her house after school.

(a) Ana estuvo mucho en casa de Amy al salir del colegio
'Ana was at Amy's house a lot after leaving school'

¹⁰ An alternative account for this finding could be that the differences may not be down to 'knowledge of morphology' because the Yes Morphology group is not significantly different from the No Morphology group.

- (b) Ana estaba mucho en casa de Amy al salir del colegio
'Ana was at Amy's house a lot after leaving school'

In (5), the context describes a habitual event, so the most appropriate sentence to describe habituality in Spanish is with the Imperfect (b). Continuous, habitual and progressive contexts were investigated for imperfectivity. The focus of their study concerns the extent to which the reconfiguration of L1 form-meaning pairings is possible when the L1 and the L2 mark viewpoint aspect differently. They argue that in Spanish there is a perfective-imperfective form-meaning division (as also found in French, see Chapter 2). Following Arche (2006), they assume that imperfective viewpoint (continuousness, habituality and progressivity) is mapped to one form (the Imperfect), whilst perfectivity is mapped to a different form (the Preterit). In contrast, there is no such division in English (see Chapter 2). The learning task for the English-speaking learner of Spanish is hypothesised to involve the reconfiguration of continuous viewpoint: in English, continuousness is argued to be mapped to the SP along with perfectivity and in Spanish continuousness is mapped to the same form as habituality and progressivity.

The results show that in all three contexts (continuous, habitual and progressive) correct acceptance (i.e. selection of the Imperfect and rejection of the Preterit) increases with proficiency, with the least number of correct acceptances found in continuous contexts. Therefore, as they predicted, the most problematic use of the Imperfective is found in continuous contexts. Furthermore, acceptance of the Imperfect in continuous contexts is the only significant difference between advanced learners and NSs ($p=.001$). On the use of the Imperfect in habitual and progressive contexts, their results show that learners are consistently more accurate in habitual than progressive contexts. This is unexpected because in English progressivity has a one-to-one form-meaning relationship (progressivity is mapped just to the *Progressive*) whilst habituality has a one-to-three form-meaning relationship (habituality is mapped to three forms: SP, *used to* and *would*), as noted in Chapter 2. However, the authors claim that in their *Sentence Interpretation task* the difference between continuous and progressive contexts 'may not have been considerable enough to be detected by the test' (Domínguez, Arche and Myles, 2011:10).

Overall, their results add support to the claim that acquisition of the Imperfect is selective (e.g. Bardovi-Harlig, 2005; Howard, 2005; Kihlstedt, 1998, 2002) because it is appropriately selected in habitual and progressive contexts with no significant differences from NSs. What is problematic is the use of the Imperfect in continuous contexts, which is the only viewpoint that requires remapping. As Domínguez, Arche and Myles, (2011:11) put it, L2 form-meaning connections different from the L1 ‘can be a source of persistent difficulty for second language speakers’ (Domínguez, Arche and Myles, 2011:11). These results are consistent with Montrul and Slabakova’s (2003) findings for the Spanish Imperfect. However, the studies differ in their syntactic analysis for aspect. The contention is between [-perfective], which according to Montrul and Slabakova is not selected in English, so learners need to acquire this feature. Whereas Domínguez, Arche and Myles argue that English-speaking learners of Spanish L2 do not need to acquire [-perfective] because it is already selected in their L1.

3.2.2 Conclusions on L1 background

Transfer of L1 form-meaning pairings is the main type of transfer observed in these studies. As Montrul and Slabakova (2002, 2003) indicate, learners initially transfer their L1 form-meaning pairings and as proficiency increases native-like L2 form-meaning pairings develop. This is indeed observed by Gabriele (2009), Gabriele, Matohardjono and McClure (2003) and Salaberry (1999, 2002, 2003, 2005, 2008). However, Domínguez, Arche and Myles’ (2011) results show that although meanings (viewpoint aspect) can be remapped, there are still significant differences between advanced learners and NSs: their advanced learners differed significantly from NSs for the mapping of continuousness viewpoint ($p=.001$). It appears therefore that L1 transfer does not ‘block’ L2 development, however it may slow it down.

Furthermore, these studies appear to indicate an ordering of the development of form-meaning pairings in the L2: perhaps in languages where viewpoint is mapped to tense forms, perfectivity is mapped first to all tenses. This would explain how advanced

learners pair progressivity with the *Present Progressive* whereas low and advanced learners do not. Furthermore, English-speaking learners of Spanish L2 arguably pair perfective viewpoint [+perfective] with the *Imperfect* until aspectual contrast is available through acquisition of the [-perfective] feature value. Therefore, just as perfective viewpoint markers appear to emerge before imperfective ones, then it is plausible that perfectivity is mapped before imperfectivity. However, to concretely answer this question, it would be helpful to address the L2 development of forms and functions together, not separately, following the research agenda set out by Domínguez, Arche and Myles (2010) and Arche, Domínguez and Myles (2010). This involves investigating the contexts in which tenses are used. For example, Gabriele Matohardjono and McClure's (2003) results show that Japanese learners did not map progressivity to the *Past Progressive*. What would be insightful to see is how Japanese learners mark progressivity in English. Although an interpretation task can indicate the meanings learners attribute to specific sentences, it needs to be triangulated with data-collection procedures that show learners' full repertoire of expression (see Chapter 4 for discussion on triangulation in SLA research). In this respect, Montrul and Slabakova's use of an interpretation task to judge the semantic implications of tenses is similar. In their Sentence Conjunction Task, activities were left out, and only perfective and progressive viewpoints were investigated. The studies reviewed here have also investigated L1 transfer with participants from the same L1 background. For instance, although there are different proficiency levels for Domínguez, Arche and Myles' (2011) and Montrul and Slabakova's (2002, 2003) learners, they are all English-speaking learners of Spanish L2. In order to further substantiate claims of L1 transfer, learners from different L1 backgrounds learning the same L2 are needed. In this way, learners can be compared at different levels of proficiency to investigate how L2 development compares across different L1 backgrounds. A final potential shortcoming resides in measuring morphological knowledge. Montrul and Slabakova's (2002) study concludes that acquisition of morphology precedes semantics. However, it is quite possible that Montrul and Slabakova's measure of morphological knowledge is not robust enough to test the claims they make about the relationship between morphology and semantics. Participants were only requested to select between two well-formed tenses in context. Selecting between

two forms seems not to be able to robustly measure morphological knowledge. Slabakova (2008) seems to acknowledge this, however:

It is important to keep in mind that “knowledge of morphology” may mean at least three different things in different L2 studies: passive recognition of morphemes in comprehension, successful productive suppliance of the morphology in appropriate context, and knowledge of the morphemes’ semantic entailments

(Slabakova, 2008:174)

It is debatable whether researchers can be selective over what constitutes morphological knowledge because each of Slabakova’s (2008) ‘three things’ can have different implications about learners’ mental grammar of morphology. A measure of morphological knowledge more informative than tense selection may be a production task, like Ayoun (2005) used. Alternatively morphological knowledge could be measured using production and tense selection tasks therefore tapping morpheme recognition and suppliance. In this respect, it would be interesting to see if morphological knowledge can be as equally accounted for by morpheme recognition tasks as morpheme production tasks.

3.3 Prototypicality

The Aspect Hypothesis (Andersen and Shirai, 1994, 1996) is a theory of L2 development specifically dealing with prototypicality (as defined and discussed in Chapter 2). It arose from studies in L1 acquisition arguing that viewpoint marking emerges before marking for time reference. In L1 acquisition, Bronckhart and Sinclair (1973) argued that young children combine particular tenses and particular situation types. Their data from L1 French-speaking children (2;11 – 8:7) showed a tendency towards using the present tense with atelic situation types (e.g. *il lave la voiture*) and the past tense with telic situation types (e.g. *il a poussé la balle*). These combinations diminished as children aged. Antinucci and Miller (1976) found similar results for L1 Italian children. These early studies argued that children’s use of past tense ‘has more of an aspectual than a temporal value’ (Antinucci and Miller, 1976:183). It was claimed that young children are not cognitively mature enough to distinguish present from past time events. So when tense is

used, it is to mark aspectual distinctions and not temporal ones. Similar correlations between viewpoint and situation were observed in SLA (Andersen, 1986, 1991) and formed the basic postulates of the Aspect Hypothesis (AH):

1. Learners first use past marking (e.g. English) or perfective marking (e.g. Chinese, Spanish) on achievement and accomplishment verbs, eventually extending its use to activities and stative verbs.
2. In languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfective past marking begins with stative verbs and activity verbs, then extending to accomplishment and achievement verbs.
3. In languages that have progressive aspect, progressive marking begins with activity verbs, then extending to accomplishment or achievement verbs.
4. Progressive markings are not incorrectly overextended to stative verbs.

(Andersen and Shirai, 1996:533)

Before looking in detail at how the AH accounts for the L2 development of viewpoint, it is worth looking at the hypothesis itself. Firstly, the AH adopts a bidimensional approach to aspect, in which viewpoint aspect is conceptually independent from situation aspect (see Chapter 2). It is a data-driven observation for L2 development: the postulates in 1-4 above are based on observed patterns of language use. However, there are theoretical explanations for it, principally in Prototype Theory (Rosch, 1973, 1978; Rosch and Mervis, 1975). Prototype Theory accounts for human categorization, assuming ‘there are good members (prototypes) and marginal members of a category, the goodness being gradient and determined by the commonality with the central members (prototype) of the category’ (Andersen and Shirai, 1996:555). Applied to language acquisition, learners acquire a category starting with its prototype and later expand its application to less prototypical cases. Andersen and Shirai (1996:558) claim that ‘action in process or progress seems to be the prototype of progressive aspect [...and] within the process meaning, prototypical cases are activity and accomplishment verbs’. In a nutshell, learners start to acquire aspect by combining prototypes of viewpoint and situation; for example, progressive viewpoint markers with activity and accomplishment situation types. Perfective viewpoint is characterized as ‘complete’, which is paired with situation types of the same ‘complete’ characterization, essentially telic situation types (achievements and accomplishments). Imperfective viewpoint has the meaning ‘not

complete' or 'ongoing', which is paired with situation types of the same meaning, that is atelic situation types (statives and activities) (see also Chapter 2, Table 2.3). L2 development results in less restrictive prototypical pairings, indicated by Andersen and Shirai's 'extended uses' in the AH. This means that as proficiency increases less prototypical pairings develop following on from prototypical ones: that is, then, perfective viewpoint with atelic situation types and imperfective viewpoint with telic situation types.

3.3.1 Empirical studies on prototypicality

The extent to which prototypes influence L2 development is the focus of this section, where studies investigating the L2 development of viewpoint aspect will be discussed. Attention will be drawn to prototypical and non-prototypical patterns of L2 development and how the AH accounts for them.

Bardovi-Harlig and Bergström (1996) investigated the development of aspectual distinctions in English and French L2 and the extent to which prototypicality influences L2 development. Their cross-sectional study is based on two different learner groups: (1) English-speaking university learners of French L2 (n=23) and (2) university learners of English L2 from various L1 backgrounds (n=23). Data were collected in the USA from written narratives based on the Charlie Chaplin silent film *Modern Times*. Learners were split into four 'proficiency' groups per L2 (Group 1, Group 2, Group 3 and Group 4) according to their past tense use in obligatory past time contexts: 'we arbitrarily grouped learners by 26-49%, 50-69%, 70% and 80% use rates' (Bardovi-Harlig and Bergström, 1996:314). The learners of French L2 mark viewpoint with tense, using the PC and IMP across situation types, except for Group 1 learners: the IMP is only used with statives and the PC only with activities, accomplishments, and achievements. All learners show prototypical preferences. Table 3.2 (adapted from: Bardovi-Harlig and Bergström, 1996:317) presents learners' scores for viewpoint marking in French L2 with the IMP and the PC with statives and achievements.

	Statives		Achievements	
	IMP	PC	IMP	PC
Group 1 (n=4)	100	0	0	70.3
Group 2 (n=7)	50	3.3	33.3	68.1
Group 3 (n=7)	70	6.5	5	52.3
Group 4 (n=5)	45.1	4.6	19.6	63.3

Table 3.2: French L2 learners' viewpoint marking in per cent in Bardovi-Harlig and Bergström (1996)

Group results as shown in Table 3.2 show that prototypical influence is greatest at the lowest proficiency level for the PC with achievements (70.3%) and the IMP with statives (100%). Then, as proficiency increases, prototypical influence appears to reduce, whereby the IMP with statives and the PC with achievements is used less by Group 4 than Group 1 learners. For nonprototypicality, although group results are low, they do show change. Group 1 learners show no non-prototypical uses (IMP with achievements and PC with statives), whereas from Group 2 onwards non-prototypical use increases, although not in a linear route of development, as predicted by the AH. This is observed for both the IMP with achievements and the PC with statives. The lack of inferential statistical methods (e.g. ANOVA, t-tests) in this study makes it difficult to see how different the learner groups are from one another. Although the descriptive statistics (e.g. percentage scores) show differences, the extent to which these are statistically significantly different remains an open question (see Chapter 4 for an overview of the use of statistics in SLA and social sciences research). Overall, Bardovi-Harlig and Bergström argue that learners show development towards nonprototypical marking as proficiency increases. Their results show that learners are influenced more by prototypes at the initial stages of acquisition than later on. As proficiency increases, prototypicality in production appears to reduce and nonprototypicality increases. These patterns of development are consistent with the AH's predictions.

Comajoan (2006) also observes use of prototypical combinations by three English-speaking university learners of Catalan L2. In his longitudinal research design, data were collected at various points over seven months from three learners. Results are split into two stages in order to compare development over time: Stage 1 from months one to three of data collection, and Stage 2 from months four to seven of data collection. Like Bardovi-Harlig and Bergström (1996), Comajoan (2006) also used *Modern Times* to elicit narratives, as well as storybook retellings and a personal narrative based on a folktale. In his analysis, Comajoan (2006:224) excluded ‘high-frequency statives’ from his analysis: *ser, estar* (‘be’), *haver* (existential ‘be’), *tenir* (‘have’), and *tenir que* (‘have to’).

Comajoan’s results show that L2 learners use the Imperfect and the Preterit with all situation types. However, one learner (Daniel) only produces five tokens at Stage 1: two achievements with the Preterit and three atelic tokens with the Imperfect. As predicted by the AH and as found for Bardovi-Harlig and Bergström’s learners, Comajoan (2006) notes that prototypicality generally reduces over time between Stage 1 and Stage 2. For the Preterit with telic situation types, Daniel’s and Robert’s use decreases between Stage 1 and Stage 2 (100% → 86.5% and 86.2% → 80.6%, respectively), however increases in prototypicality are observed for Barbara: 67.4% → 79.4%. For the Imperfect with statives, all learners’ prototypical pairings decrease between Stage 1 and Stage 2: Daniel 33.3% → 27%; Barbara 52.9% → 36.5%; Robert 45.8% → 39.1%. These results show less of a prototypical influence on L2 development at Stage 2 than at Stage 1. Furthermore, nonprototypicality increases over time. For example, Daniel and Robert use the Preterit more with statives at Stage 2 than at Stage 1. Along the same lines as Bardovi-Harlig and Bergström’s (1996) French L2 data, Comajoan’s results generally show that between Stage 1 and Stage 2 prototypicality reduces as nonprototypicality increases.

In contrast to Bardovi-Harlig and Bergström (1996), Comajoan (2006) presents function or ‘appropriateness of use’ analyses in addition to form analyses. His functional analyses show how appropriate learners’ prototypical and nonprototypical combinations are. However, Comajoan does not explain how ‘appropriateness of use’ is determined in his

study. Presumably, Comajoan is referring to appropriateness in terms of viewpoint aspect, such as use of the Imperfect in imperfective contexts. He concludes that learners' use of prototypical combinations is more accurate (or appropriate) than non-prototypical ones (Comajoan, 2006:243). 100% appropriate use is only found for the Imperfect with atelic situation types and accomplishments and for the Preterit with activities. Learners appear to struggle most with the following non-prototypical combinations: Imperfect with achievements (33% appropriate), Preterit with statives (78.6%). Therefore, when learners use the Imperfect with atelic situation types it is always 'appropriate', whereas when this same form is used with achievements, it is only 'appropriate' 33% of the time.

Comajoan's (2006) Catalan L2 and Bardovi-Harlig and Bergström's (1996) French L2 results are consistent with the patterns of development stated by the AH. In addition, both studies present their results with descriptive statistics, failing to incorporate inferential statistical methods, which would not only show statistically tested differences and correlations, but would show the extent to which proposed correlations and differences are due to chance and which are statistically significant. Moreover, both studies are based on a very small corpus of learners: three learners of Catalan L2 and between four and seven learners in each French L2 group. The danger of a small learner corpus relates to the magnification of particular learner idiosyncrasies. Therefore, one learner's idiosyncrasies may be generalized to the whole learner corpus in error.

Returning to Bardovi-Harlig and Bergström (1996), their English L2 learners generally use the SP and the *Progressive* with all situation types, except for the *Progressive*, which is not used with statives (as the AH states). As found for learners of French and Catalan L2, English L2 learners also show prototypical influence, as shown in Table 3.3 (adapted from: Bardovi-Harlig and Bergström, 1996:316).

	Activities		Achievements	
	Prog.	SP	Prog.	SP
Group 1 (n=4)	61.9	7.9	25	62.5
Group 2 (n=7)	59.9	5.3	5.3	84.2
Group 3 (n=7)	66.7	10.4	0	100
Group 4 (n=5)	61.4	8.9	8.7	52.2

Table 3.3: English L2 learners' viewpoint marking in per cent in Bardovi-Harlig and Bergström (1996)

Table 3.3 shows that prototypicality (*Progressive* with activities and SP with achievements) is not the strongest type of viewpoint-situation combination for the least proficient learner group. For the SP with achievements, these combinations are strongest for Group 3 and 4 learners than for Group 1 learners. Therefore, in contrast to Comajoan (2006) and Bardovi-Harlig and Bergström's (1996) French data, English L2 prototypical influence fluctuates across proficiency levels: there is no clear pattern of prototypical influence on L2 development. Furthermore, prototypical influence is strongest for the intermediate groups and not the least proficient group. This pattern of development is not consistent with the AH because prototypical influence represents a bell-shaped (\cap) route of L2 development instead of a linear one. Nonprototypicality (SP with activities and *Progressive* with achievements) also fluctuates across groups. For the SP and the *Progressive*, nonprototypicality does not consistently increase with proficiency. Instead, it seems to hit troughs and peaks (although the peaks are never very high). Bardovi-Harlig and Bergström (1996:319) note the 'spread of the progressive', showing that as prototypical influence reduces, nonprototypicality increases. This pattern can be observed between Groups 3 and 4; for instance, prototypical *Progressive* goes from 66.7% \rightarrow 61.4% whilst at the same time nonprototypical *Progressive* goes from 0% \rightarrow 8.7%. However, this observation fails to hold consistently. The French L2 data show that prototypical influence decreases as proficiency increases, but this is not observed for the

English L2 data. Furthermore, nonprototypicality increases with proficiency for the French L2 learners but not consistently for the English L2 learners.

Bardovi-Harlig and Bergström (1996:323) claim that their ‘learners all show remarkably similar sequences of acquisition’, however this is not what their data show. In fact, the results show remarkably different sequences of acquisition: French L2 learners’ L2 development is consistent with the linear route of prototypical development as predicted by the AH: PC-telic and IMP-atelic combinations are strongest for the least proficient learners. Their English L2 learners are less influenced by prototypes and the linear route of prototypical L2 development is not supported. Instead, intermediate group learners (Groups 2 and 3) use more prototypes than Group 1 learners. Differences in L2 development may be attributable to L1 background: French L2 learners were all English speakers whilst English L2 learners came from ‘various’ L1 backgrounds. The researchers also indicate that the L2 groups may have been of different proficiencies: learners were graded on their use of verbal morphology because ‘a standardized proficiency rating was not available for these learners’ (Bardovi-Harlig and Bergström, 1996:324). In which case, L2 comparison is not possible. Proficiency was graded within each L2, which failed to compare English L2 and French L2 groups. Therefore, it is unlikely that the English L2 Group 1 is of the same proficiency level as French L2 Group 1.

As noted for Comajoan’s study, Bardovi-Harlig and Bergström’s study is also based on a small learner corpus, with between four and seven learners in any one group. The potential for particular learner idiosyncrasies to affect group results is more likely with a small group of learners. However, despite these methodological shortcomings, Comajoan’s (2006) Catalan L2 and Bardovi-Harlig and Bergström’s (1996) French L2 learners do show similar patterns of prototypically-influenced L2 development, consistent with the AH. Furthermore, Catalan L2 and French L2 learners are all English speakers and all studied the L2 as a foreign language. In contrast, Bardovi-Harlig and Bergström’s English L2 learners do not show prototypically-influenced patterns of development similar to the Catalan and French learners. The English L2 results are also not consistent

with the AH. Furthermore, the English L2 learners were from ‘various’ L1 backgrounds and studied the L2 as a second language. There are many uncontrolled and unaccounted for variables at play for the English L2 learners. What remains to be seen is how these English L2 findings compare to other studies’ findings and other L2s.

Salaberry (1999) collected data from 20 English-speaking university learners of Spanish L2 in addition to a control group of Spanish NSs. In this longitudinal research design, data were collected at two different points in time, two months apart. Learners were divided into four different groups based on their level of instruction. Participants produced spoken narratives based on *Modern Times* (as did Bardovi-Harlig and Bergström and Camojoan). Salaberry’s results show that learners generally use the Imperfect and the Preterit with all situation types, apart from Group 1 at the first data collection point: they only used the Imperfect once with a stative. Comajoan (2006) also noted that one of his learners (Daniel) did not initially use tense morphology that frequently. All of Salaberry’s learners indicate prototypical influence beyond the least proficient group. Table 3.4 shows Salaberry’s (1999:166) results in terms of prototypical and nonprototypical pairings.

	Time 1		Time 2	
	Telic	Stative	Telic	Stative
Group 1 (n=4)				
Preterit	60	15	81	12
Imperfect	0	100	50	50
Group 2 (n=4)				
Preterit	74	14	83	8
Imperfect	33	48	34	66
Group 3 (n=4)				
Preterit	85	8	90	5
Imperfect	9	81	7	83
Group 4 (n=3)				
Preterit	94	2	86	6
Imperfect	7	86	13	83

Table 3.4 Prototypicality and nonprototypicality in per cent in Salaberry (1999)

The results in Table 3.4 show uses of the Imperfect and Preterit according to situation-type (stative and telic) contexts. It is noted that learners do not always use the past tenses in obligatory past time contexts. Other tenses are the *Present*, the *Progressive* and infinitive forms. Group 1 learners rarely use the Imperfect, only five uses in total. It is from Group 2 onwards that learners' use of viewpoint forms increases. The results show that from Group 2, the Preterit and the Imperfect are used with both telic and stative situation types, showing preference for prototypical pairings. Group results (from least to most proficient and from Time 1 to Time 2) for prototypes between: (a) the Preterit and telic situation types are: 74% → 83% → 85% → 90% → 94% → 86%; and (b) the Imperfect and statives: 48% → 66% → 81% → 83% → 86% → 83%. These proportions show that the more proficient groups (e.g. Groups 3 and 4) show greater use of prototypical combinations than the less proficient groups (e.g. Groups 1 and 2). This is exemplified by Group 2 and Group 3 learners, who show greater prototypical combinations at Time 2 than at Time 1 (as shown in Table 3.4). Furthermore, in each group at Time 1, the higher the proficiency level, the greater the use of prototypical combinations; for example, Preterit with telic situation types at Time 1 is: 74% (Group 2), 85% (Group 3), 94% (Group 4). It is only Group 4 learners that buck this trend indicating greater prototypical influence at Time 1 than Time 2. As observed in Bardovi-Harlig and Bergström's (1996) and Comajoan's (2006) studies, Salaberry's (1999) results are also absent of any inferential statistical analyses. Consequently, although percentages indicate differences between groups for prototypical combinations, the extent to which these differences are statistically significant is unverified. Therefore, comparison between learner groups is not possible. Following Bardovi-Harlig and Bergström (1996) and Comajoan (2006), Salaberry's (1999) results are also based on a very small group of learners: 4 in each learner group. A small number of learners increases the magnitude possibility of idiosyncratic effects in the learner groups. That said, Salaberry's results do follow the same pattern of prototypically-influenced development as found for Bardovi-Harlig and Bergström's (1996) English L2 learners (see Table 3.3). For nonprototypicality, Salaberry's results show: (1) Preterit with statives: 14% → 8% → 8% → 5% → 3% → 6%; and for the Imperfect with telic situation types: 33% → 34% → 9% → 7% → 7% → 13%. These proportions show that less proficient learners (Group 2) use

more nonprototypical pairings than more proficient learners (Groups 3 and 4). L2 development for nonprototypicality for Salaberry's (1999) learners is consistent with results from Bardovi-Harlig and Bergström's (1996) English L2 learners. Salaberry's results show that prototypicality with the Preterit was greater at Time 2 than Time 1 for Groups 2 and 3. However, the opposite is true for nonprototypicality: learners in Groups 2 and 3 use fewer prototypical pairings with the Preterit at Time 2 than time 1. Once again, Group 4 bucks this trend, showing more nonprototypical pairings at Time 2 than Time 1. However, these scores lack any kind of inferential statistical testing.

Overall, Salaberry's results show that less proficient learners show greater use of nonprototypes and then this pattern dips as proficiency increases. The results then show that nonprototypical use begins to increase again: these prototypical patterns of L2 development are not linear as the AH suggest, but rather U-shaped. In sum, Salaberry's results show that less proficient learners are less influenced by prototypes than more proficient learners. In addition, lower level learners show greater preference of nonprototypical pairings than more advanced levels. He argues against the AH, claiming that at the beginning stages of acquisition, prototypes do not influence L2 development:

For the beginning stages of acquisition, the use of Past tense verbal morphology in L2 Spanish among adult tutored learners is independent of the effect of inherent lexical aspectual value of verbal predicates. On the other hand, there is support for the claim that inherent lexical semantics of the verbal predicate correlates with Past tense verbal morphology for stages subsequent to the first period of instruction.

(Salaberry, 1999:165-7)

Salaberry's argument correlates with studies investigating L1 influence on the L2 development of viewpoint aspect (e.g. Gabriele, Matohardjono and McClure, 2003; Domínguez, Arche and Myles, 2011), in particular the reconfiguration of L1 form-meaning pairings in the L2 (see section 3.2). It is plausible that learners at the beginning stages of acquisition are less (or not) influenced by semantic prototype combinations because in order to combine situation and viewpoint situation types, viewpoint needs to be mapped to tense. If viewpoint is not yet mapped to tense, then it is hard to see how prototypical situation- and viewpoint-type combinations are made. As prototypical combinations increasingly influence L2 development beyond Salaberry's Group 1

learners, it is plausible that these learners (Groups 2, 3 and 4) are at different stages of reconfiguring L1 form-meaning pairings. This is supported by increased prototypical combinations as proficiency increases. Therefore, Group 3 learners show greater prototypical influence than Group 2 learners because form-meaning reconfiguration is at a more advanced stage for them. Although such an account is plausible and appears to explain why more proficient learners show greater use of prototypical combinations than less proficient learners, it appears that prototypical influence appears to eventually diminish for Salaberry's Group 4 learners. He notes that his Group 4 learners begin to use fewer prototypical and more nonprototypical combinations at Time 2 than at Time 1 in contrast to Groups 2 and 3. Score differences between Time 2 and Time 1 are small though: Preterit with telic situation types falls from 94% to 86% (8% difference) and the Imperfect with stative falls from 86% to 83% (3% difference). These differences are very small and are not statistically tested. Salaberry accounts for these small differences in terms of viewpoint aspect:

The highest degree of association of atelic verbs and the Imperfect and, on the other hand, telic verbs and the Preterite in the use of Past tense verbal morphology occurs for [Group 4] students at Time 1. However, such degree of association begins to subside after two months (Time 2, [Group 4]). In other words, at time 2 advanced learners have begun to mark some verbs according to *viewpoint aspect*.

(Salaberry, 1999:167)

For Salaberry, then, it appears that the small differences found for the Group 4 learners between Time 1 and Time 2 is due to the reconfiguration of L1 form-meaning pairings. His claim that only 'some verbs' are marked for viewpoint aspect suggests that reconfiguration is not yet native-like for his Group 4 learners, but that it leads to less use of prototypical combinations. Salaberry's explanation for the Group 4 data is confusing. It seems more plausible to suggest that prototypical combinations are observed for Group 2, 3 and 4 because viewpoint mapping is under way, whereas Group 1 show little (or no) prototypical influence because viewpoint is not yet mapped to tense: Salaberry argues that the Preterit in Group 1's IL just marks past time temporal reference and not viewpoint aspect.

Combined with Bardovi-Harlig and Bergström's English L2 data, Salaberry's findings suggest that as proficiency increases, prototypical influence increases. Despite Salaberry's claims that prototypical combinations decrease as viewpoint aspect is mapped, it seems that prototypical combinations develop and strengthen as proficiency increases because of the reconfiguration of L1 form-meaning pairings in the L2. It is possible that perfective-telic combinations only develop when perfectivity is mapped in the L2. Bardovi-Harlig and Bergström's and Salaberry's Group 1 learners use fewer prototypical combinations because they appear to not yet have mapped viewpoint aspect to tense. These studies deserve further comment. Firstly, across four different L2s, all of the studies have used the silent film *Modern Times*, yet not all studies show the same patterns of L2 development. Secondly, Bardovi-Harlig and Bergström (1996) and Salaberry (1999) do not present function analyses. Therefore it is impossible to see how learners use tense, whether the Preterit is used appropriately in obligatory perfective contexts or not, for example. Not only would such an analysis indicate the meanings learners have mapped to these tenses, but also how the learners use them. This seems to be a major shortcoming. Thirdly, despite similarities in L2 (Catalan, French, and Spanish) learners show differences in L2 development. The question that remains is why the Catalan L2 and French L2 learners differ in terms of L2 development for viewpoint marking from the English L2 and Spanish L2 learners. An examination of Salaberry's discussion of why prototypical combinations change over different proficiencies in L2 development revealed correlations with findings in section 3.2 on L1 background. The transfer of L1 form-meaning pairings requires learners to reconfigure or reassemble existing meanings when the L1 and the L2 differ for viewpoint aspect (Domínguez, Arche and Myles, 2011; Lardiere, 2009). Therefore, at the beginning stages of acquisition, some studies show that prototypical combinations increase as proficiency increases (Bardovi-Harlig and Bergström, 1996; Salaberry, 1999), whilst others show that prototypicality decreases as proficiency increases (Bardovi-Harlig and Bergström, 1996; Comajoan, 2006). The studies reviewed in section 3.2 with those here indicate more generally that L1 background and prototypical influence are not exclusive, but rather that they exert mutual influence on each other. Less proficient learners arguably use fewer (or no) prototypical combinations because they have not mapped viewpoint aspect to tense.

Learners that are more proficient show greater use of prototypical combinations because they have mapped viewpoint aspect to tense. Therefore, without mapping, prototypical combinations appear not to be observed. Differences in L2 development may be due to learners being of different proficiency levels. Proficiency levels are generally difficult to compare across studies, and the lack of an independent measure of proficiency makes comparisons even more difficult.

Robison's (1995) interview data for English L2 show patterns of development similar to Salaberry's data. His Spanish-speaking university learners are divided into five different proficiency groups and indicate that prototypicality increases with proficiency. For instance, results for the *Progressive* with activities are: 57% → 70% → 79% → 80%. Furthermore, his data also show that prototypical influence is observed more at higher proficiency levels. Results confirming this developmental trend in English L2 are also observed by Bardovi-Harlig (1992) and Housen (1994, 2000). For French L2, Ayoun (2005) also notes prototypical influence. She states that her learners generally use the PC and the IMP across all situation types: except for intermediate low learners who only mark accomplishments with the PC. Furthermore, the PC is used most with achievements and least with statives (prototypical) and the IMP is used most with statives (prototypical) (Ayoun 2005:112). A pattern of development across L2s appears to be emerging: principally, a correlation between proficiency and prototypical influence, but not the one stated by the AH. Prototypical influence appears to be reinforced with increasing proficiency.

Labeau's (2005) French L2 results show clear support for such a generalization. She also used *Modern Times* to elicit viewpoint marking in written and spoken narratives, as well as three cloze tests. Her data are based on a corpus of 61 university learners of French divided into three groups based on level of instruction: Year 1 (n=21), Year 2 (n=17), and Year 4 (n=23¹¹). She notes that uses of the PC and the IMP are 'unequally distributed across lexical categories at all levels, which seems to support the AH inasmuch as it

¹¹ The learner corpus also contains four bilinguals: two English-French bilinguals and one English-German bilingual in the Year 4 group and one English-German bilingual in the Year 1 group.

predicts preferential combinations' (Labeau, 2005:144). Labeau's results for the spoken narratives are shown in Table 3.5 (adapted from: Labeau, 2005:149).

	Statives		Telic	
	IMP	PC	IMP	PC
Year 1 (n=21)	58.8	3.9	25.9	75.8
Year 2 (n=17)	79.3	1.4	11.3	79.1
Year 4 (n=23)	80.3	2.4	5.1	80.2

Table 3.5: Tense selection according to situation type in per cent in French L2 in Labeau (2005)

In Labeau's oral data shown in Table 3.5, group results show that prototypical combinations (IMP with statives and PC with telic situation types) increase with proficiency level. The proportions for prototypical combinations are indeed very similar, with less than 5% difference between groups for the PC with telic situation types. The lack of inferential statistics in this study does not make it possible to draw reliable comparisons. Although there are differences in percentage scores for each group, it is hard to say how different these groups are from each other. Nonetheless, Labeau's (2005) results are largely consistent with Robison's (1990, 1995) and Salaberry's (1999) findings. For nonprototypicality, the results are again low, but they seem to indicate less use of non-prototypical combinations as proficiency increases, such as the IMP with telic situation types: 25.9% (Year 1)→ 11.3% (Year 2)→ 5.1% (Year 4). These scores suggest that Year 1 learners use more nonprototypical combinations than more advanced learners, as observed by Salaberry (1999): nonprototypicality reduces with increases in proficiency. Along with Comajoan (2006), Labeau (2005) also presents form and function analyses, showing the intended meanings of the IMP and the PC in learners' IL grammar. In obligatory perfective contexts, Labeau notes that learners' use of the PC increases with proficiency. Use of the PC is generally high, even amongst the Year 1 learners (74%). The IMP is also used in obligatory perfective contexts, used more in the written than the spoken narratives. In both modes of expression, however, Year 4 learners

use the IMP least (15.9% written and 6.7% spoken) and Year 1 learners use it the most (36.9% written and 28.3% spoken). In imperfective contexts, use of the IMP differs between learner groups: for instance, in the spoken narratives, use of the IMP is as follows (from Year 1 to Year 4): 55.2% → 76.4% → 81.4%. She concludes that ‘the proportion of IMP increases with proficiency, but falls short of native levels’¹² (Labeau, 2005:182). There are also uses of the PRES and the PC in obligatory perfective contexts, although they are used comparatively less frequently than the IMP, indicating that learners show preference for the IMP in imperfective contexts. The PC never exceeds 5%. In contrast, the PRES is used more frequently, ranging from between 10.5% and 40.9%. Year 1 and Year 2 learners use it more in oral than written production, with Year 4 learners consistently using it the least.

Labeau’s data are largely inconsistent with the AH’s claims, with support from Bardovi-Harlig and Bergstrom’s (1996) English L2 data, Robison (1990, 1995) and Salaberry (1999). Although there are data supporting the AH’s claims for L2 development (e.g. Comajoan, 2006), there is also counterevidence. Learners seem increasingly to show increased prototypical influence as proficiency increases. However, as has already been noted, comparisons between groups are consistently made on descriptive statistics (percentages, means etc.) and the differences between groups are often very small. For example, there is less than 5% difference between Labeau’s Year 1, Year 2 and Year 4 results for the PC-telic prototypical combinations. Therefore, without inferential statistics it is hard to see how different these groups really are, if they are different at all. Another limitation to Labeau’s findings concerns the methodology. Firstly, absent is an independent measure of proficiency, with learners selected according to level of instruction. Secondly, her learner groups contain four bilinguals, including two bilingual French-English speakers. Notwithstanding these limitations, Labeau’s study does include a larger number of learners in her study: between 17 and 21 learners in each learner group.

¹² Labeau’s study does not incorporate an independent measure of proficiency.

3.3.2 *Conclusions on prototypicality*

Studies investigating the extent to which L2 development is influenced by prototypical combinations appear to largely disagree with the AH more than they support it. However, this largely depends on how critically the results are viewed. When the AH's claims are scrutinised, they appear not to stand up well. Findings that prototypical influence is not strongest at the early stages of development is found by Bardovi-Harlig and Bergström (1996), Labeau (2005), Robison (1990, 1995), and Salaberry (1999). These same studies also show that nonprototypicality fails to increase consistently with proficiency. In contrast, the pattern of L2 development that appears to be consistently found is that the use of prototypical combinations increases with proficiency. Ayoun and Salaberry (2005:269) similarly note such trends in the literature and suggest that 'the developmental picture of tense-aspect marking originally proposed by Andersen needs to be reviewed and possibly revised'. However, although Ayoun and Salaberry (2005) appear correct to draw such a conclusion, it is maybe not that Andersen and Shirai's (1994, 1996) AH needs to be revised. Rather, it appears that it could be better contextualised in light of recent findings, such as taking into consideration potential L1 background effects. In particular, this review has noted how L1 background and prototypicality appear to be two directly related factors in the L2 development of viewpoint aspect.

Although the AH could benefit from better contextualisation (such as reference to the role of L1 form-meaning pairings in L2 development), revisions to research methodology in the SLA tense-aspect tradition are also required. First is the extent to which *Modern Times* is used. Bardovi-Harlig (2000:201) indicates that in *Modern Times* 'certain types of predicates occur more frequently than others'. The effect of this elicitation method is that learners do not have the freedom to express prototypicality and nonprototypicality in equal measure: they are restricted by what they can say by the situation types that are available. A triangulated methodology, such as the use of elicited production along with experimental data-collection procedures, would allow non-prototypical combinations to be investigated alongside prototypical ones. A related problem is therefore between the AH and the use of *Modern Times* to investigate the AH. Is it the choice of methodology that needs revising or is it the hypothesis? An elicitation method with a balanced

distribution of situation types would arguably be better suited for investigations of this type. Domínguez, Arche and Myles (2011) specifically designed two elicited production tasks that aimed to obviate the shortcomings of *Modern Times*, by eliciting prototypical and non-prototypical combinations in equal measure (see Chapter 4 and also www.splloc.soton.ac.uk). Furthermore, functional analyses seem to be overlooked at times. This means that results are presented showing tense and situation type combinations, but they fail to show how particular tenses are used (e.g. Bardovi-Harlig and Bergström, 1996; Salaberry, 1999). If the aim of SLA aspect research is to document the viewpoint meanings learners attribute to tenses, then these studies fall short in delivering this objective. Consequently, researchers are unable to isolate a form's function in learners' IL. Although it is useful to see how frequently the PC is used and what verb types it is used with most, this is after all documentation on emergence and use of form. The question then becomes what is the relation between form and function. If a form's function is not analysed, then how can studies accurately comment on the acquisition of aspectual distinctions? In this respect, form-function analyses as found in studies by Comajoan (2006), Domínguez, Arche and Myles (2011), Howard (2002) and Labeau (2005) are welcome. The function analyses go beyond reporting patterns in tense use and indicate the intended meaning of the tenses learners use.

3.4 Conclusion

In this chapter, studies reporting the L2 development of viewpoint aspect have been discussed. Factors influencing the L2 development of viewpoint aspect were discussed in sections 3.2 and 3.3. Studies investigating the role of L1 form-meaning pairings and the relationship between morphology and semantics were also discussed. Learners appear to initially overgeneralize L1 form in the L2. This can both facilitate and impede development. L2 learners have been reported as being able to overcome these initial overgeneralizations and indicate the reconfiguration of L1 form-meaning pairings in the L2. It has also been shown that the AH is generally unable to fully account for documented patterns of L2 development (Ayoun and Salaberry, 2005). Studies generally indicate that prototypical influence is reinforced as proficiency develops (e.g. Labeau,

2005; Robison, 1995; Salaberry, 1999). In other words, more proficient learners appear to be influenced more by prototypes than less proficient learners.

When the findings and discussions from empirical studies investigating L1 influence and prototypicality are brought together, two patterns appear to emerge: (1) initial transfer of L1 form-meaning pairings and (2) prototypical influence. The roles these two factors play in the L2 development of viewpoint aspect are the focus of this thesis. It has been discussed that prototypicality appears to influence more proficient learners to a greater extent. This is could be due to the reconfiguration of L1 form-meaning pairings in the L2. For prototypical combinations to be observed, such as PC-telic, then for perfectivity to be combined with telic situation types, perfectivity needs to be mapped to the PC. This means that prototypical combinations may only be made by learners once meanings have been mapped. It is hypothesised that both L1 transfer and prototypicality shape L2 development, but at different stages of L2 development. Chapter 4 incorporates these factors into the research methodology, where they feature prominently in the study's research questions and hypotheses for L2 development.

Chapter 4. Research methodology

4.1 Introduction

SLA research makes use of many different methods and procedures to elicit, observe and record language acquisition and development. As Norris and Ortega (2000, 2003; Ortega, 2005, 2009) note, data acquired from different methods and procedures is required in order to provide credible interpretations about:

- (i) a learner's linguistic system (i.e., the underlying mental representations of the L2);
- (ii) the development or change (or the lack thereof) in a learner's linguistic system;
- (iii) factors which may contribute to or hinder a learner's developmental approximations of the target L2.

(Norris and Ortega, 2003:717-18)

The ways in which SLA researchers collect data are diverse, incorporating and adopting methods from related fields of enquiry, such as anthropology, education, linguistics, neuroscience, psychology and sociology (Chaudron, 2003; Doughty and Long, 2000; Gass and Mackey, 2007, Mackey and Gass, 2005). As the field has matured, it has become increasingly clear that research design needs to incorporate multiple methods and procedures, as noted by Chaudron (2003):

It has become clear in the development of the SLA research tradition that, regardless of the particular approach or design adopted by the researcher, a variety of data-collection procedures is feasible, if not desired, in order for the researcher to obtain the best sample of learners' performance potential.

(Chaudron, 2003:763)

Furthermore, it is not just a matter of implementing different data-collection procedures, but the types of data researchers collect appear just as important. For example, White (2003) broadly classifies data-collection procedures into three categories in terms of the different type of data they generate: (1) production methods, (2) comprehension methods, and (3) intuition methods. Chaudron (2003) proposes a classification of data-collection procedures in terms of: (1) naturalistic, (2) elicited production, and (3) experimental. Naturalistic data-collection procedures include some of the earliest methods for collecting SLA data (e.g. Hakuta, 1974, 1976), where researchers typically video- and/or audio-record learners in a naturalistic setting (e.g. free play for child L2 learners). For example,

Haznedar (1997, 2001) collected spontaneous spoken data from a four-year old Turkish-speaking learner of English L2. The recordings came from play-like interaction to elicit L2 use. Spontaneous data obtained from conversations, participant observation of learners' interactions and conversations with other people and self-recorded diaries were used by researchers on the ESF project (Dittmar, 1992; Dietrich, Klein and Noyau, 1995; Perdue, 2000). 'Naturalistic data-collection procedures' (Chaudron, 2003) can often be very open-ended resulting in a very rich data sample, which can be extremely informative, especially for longitudinal research designs. However, the open-endedness of this procedure means that the target structures may be absent or just not produced in the data. Other disadvantages of this method include reliance on recording equipment (e.g. forgetting to turn on the recorder or the recorder breaking down) and the subsequent labour-intensive transcription of the data.

In an attempt to avoid the disadvantages associated with naturalistic data, especially the absence of target structures, the development of elicited production has permitted more focused and concentrated data-collection procedures. These include structured interviews, communication tasks (e.g. opinion exchange, debating), storytelling and role plays. Structured interviews follow sequences of (often predetermined) questions and answers between learners and interviewer, often about particular topics with the aim to elicit particular target structures. Structured interviews were used by Kihlstedt (1998, 2002) and Howard (2002, 2005) to elicit past tense use in French L2. Kihlstedt's data are from the InterFra corpus (Bartning, 1997) and the interview questions covered 'personal history, general opinions of Sweden and France, previous academic and professional experience, hobbies, future plans etc.' (Kihlstedt, 2002:335). Communication tasks in contrast are arguably more focused than interviews. They aim to elicit particular structures, which may be avoided in conversation. According to Chaudron (2003), they take many different forms contrasting widely in terms of complexity and linguistic and processing demands. Skehan (1998) argues that communication tasks typically comprise five main features:

- (i) meaning is primary
- (ii) there is some communication problem to solve
- (iii) there is some sort of relationship to comparable real-world activities
- (iv) task completion has some priority
- (v) the assessment of the task is in terms of outcome

(Skehan, 1998:05)

Research designs using communication tasks have included map reading, problem-solving discussions, picture descriptions, ordering pictures into sequences of events and information gap tasks. A range of communication tasks were used by Myles, Mitchell and Hooper (1999; Myles, Hooper and Mitchell, 1998) to elicit interrogatives in French L2. For example, in a one-way information gap task, a learner drew a picture described by another learner. In a Landscape-with-Figures task, the learner had a landscape picture and had to draw on it the location and description of figures by asking questions. Another type of elicited production procedure prominent in SLA research is retelling stories, whereby learners watch a short video clip or use a picture booklet to tell a story. Tense and aspect SLA research has especially made use of story retelling, using a range of video extracts and picture stories (for an extensive review see Bardovi-Harlig, 2000). According to Bardovi-Harlig (2000), the use of films (particularly silent films like *Modern Times*) present many advantages for eliciting tense and aspect:

The advantages of the [story] retell tasks are that the sequence of events is known to the researcher independently of the narrative itself and that such narratives can be compared across learners [...] Moreover, the content of stories (in pictures, oral presentations, or film) used for prompted narratives may be manipulated to test specific rules of distribution, by including different actions or states and varying the importance of certain actions

(Bardovi-Harlig, 2000:199-200)

Although films arguably cannot be manipulated as easily as picture stories, particular film extracts can be selected over others or retelling can be done in different ways. For instance, Salaberry (1999, 2000) and Labeau (2005) tried to make story retelling more authentic by using a *Modern Times* clip where a loaf of bread is stolen. They then requested learners to retell the story with one pretending to be a witness of the crime and another being the police detective investigating the crime. Designing a picture story with specific target structures in mind was done by Domínguez, Arche and Myles (2010, 2011; Arche, Domínguez and Myles, 2010) for the acquisition of Spanish L2 (see

www.splloc.soton.ac.uk). The story (*Las Hermanas*) was specifically designed for learners to mark past time reference and to mark aspectual contrasts (e.g. perfective vs. habitual). Furthermore, they were able to select particular predicates and pictures in line with their research aims (e.g. prototypical and non-prototypical combinations). These task designs, in particular *Las Hermanas*, demonstrate how elicitation tasks contrast with naturalistic procedures: the former can be ‘tailored to specific points of L2 learning that are the theoretical focus of the research’ (Chaudron, 2003:772), whereas naturalistic procedures are generally not tailored to specific research aims. However, a disadvantage of elicited production procedures relates to learners’ avoidance of target structures, as discussed for naturalistic data-collection procedures. Therefore, although a task may be selected or designed to elicit a particular target structure, it is not guaranteed that a learner will produce it, especially if the target feature is not within the learner’s repertoire. A task’s clarity or its administration can also affect production: it may be clear to the researcher what the task involves, but it also has to be clear to the learner. Furthermore, as found by Robinson (2000, 2001), task complexity appears to affect accuracy and fluency. Therefore, in elicited production tasks, a fine balance between competing factors is essential.

The last principal type of data-collection procedure identified by Chaudron (2003) is experimental. Experimental data-collection procedures, compared to elicited ones, ‘tend to be employed under more controlled conditions, with elicitation of L2 production or performance on perceptual-receptive tasks, with less communicatively driven and decontextualized constraints’ (Chaudron, 2003:783-4). Experimental data-collection procedures typically fall into three main types. First are ‘on-line’ tasks testing real-time language processing, such as word recognition and sentence matching tasks. Second are tasks requiring increased cognitive processing, such as sentence completion, elicited imitation and memorization tasks. Finally are tasks relying extensively on reflective capacities eliciting learners’ ‘metalinguistic judgments’ (Tremblay, 2005:133), such as sentence judgement and interpretation tasks. On-line tasks have been used to test real-time processing, such as sentence comprehension. Roberts and Felser (2011) used a self-paced reading task to test temporary subject-object ambiguity effects in English L2. On a

computer screen, participants were requested to read as quickly as possible sentences and answer any corresponding Yes/No comprehension questions. There were 20 test sentences, with each sentence not exceeding ten words (e.g. the spokesman confirmed the story had surprised the president yesterday), followed by a comprehension question (e.g.. Had the story surprised the president?). Sentences and questions were presented one word at a time and participants brought up subsequent words by pressing a button. Reaction times and comprehension accuracy were recorded. Elicited imitation has also been widely used to measure cognitive processing (e.g. Erlam, 2006; Ervin-Tripp, 2001; Graham *et al.*, 2008; Vinther, 2002). It typically involves the preparation of a word string illustrating a target feature. The learner is then instructed to repeat exactly what they hear. It is assumed that ‘a student cannot successfully repeat an utterance if he cannot understand it’ (Hendrickson, Aitken, McGhee and Johnson, 2010:48). Judgement and interpretation tasks represent a different type of experimental data-collection procedure. The Truth Value Judgement Task (Crain and McKee, 1985) tests the interpretations learners assign to words and sentences and Grammaticality Judgement Tasks test a sentence’s perceived grammaticality. They are often judged on a scale of appropriateness (e.g. -2 -1 0 +1 +2) or in terms of true or false. Domínguez, Arche and Myles (2011), Gürel (2006) and Slabakova (2003) presented a context in the learner’s L1 and a set of test sentences in the L2. Learners were asked to judge whether the test sentences were appropriate to describe the context. Learners were expected to reject a sentence when they consider it not to appropriately describe the context. In Domínguez, Arche and Myles (2011), a Semantic Interpretation Task was specifically designed to test the interpretation learners assign to the Spanish past tenses in terms of viewpoint aspect. They investigated contexts conveying perfective and imperfective (habitual, progressive and continuous) viewpoints, using a five-point Likert scale (-2 +1 0 +1 +2).

Interpretation tasks, along with the experimental data-collection procedures in general, show some similarities with elicited production procedures, but when well designed and thoroughly pilot tested before data collection, their highly controlled nature specifies the target features to be elicited. They collect a different type of data, often decontextualized, that is designed to investigate a particular feature and allow researchers to distinguish

between features that are just not produced and those that are avoided. The most popular criticism of experimental procedures is summed up by Cook (1986:13) who argues that ‘controlled data has the advantage that it yields the information we are looking for. It has the disadvantage of artificiality’. It is the very design of experimental procedures that makes them more decontextualized than naturalistic and elicited production data-collection procedures. Returning to Chaudron’s earlier citation, it therefore becomes clear why combining different types of data-collection procedure is optimal: ‘a variety of data-collection procedures is feasible, if not desired, in order for the researcher to obtain the best sample of learners’ performance potential’ (Chaudron, 2003: 763). Experimental procedures may be precisely designed and fine-tuned in what and how they elicit data, and can be seen to be artificial, whereas naturalistic and elicited productions, whilst they appear richer, more extensive and contextualised, may fail to adequately elicit the target structures under investigation. Therefore it becomes clear why a balance between different data-collection procedures is desirable.

Reliability and validity are important when planning and executing research studies. As noted by Chaudron (2003:800), in any research study ‘the reliability of the data-collection procedure or instrument needs to be determined first’. Reliability involves verifying, often by another researcher, data-collection procedures or actual data, such as transcriptions, quantitative measures and classifications. For example, Myles, Mitchell and Hooper (1999) report that their French oral data were transcribed by one researcher and subsequently verified by a different researcher. Furthermore, Salaberry (1998, 1999, 2000) notes that his classification of predicates into the Vendler classes (i.e. states, activities, accomplishments and achievements; see Chapter 2) was performed following a set of operational tests by three different people. Testing the reliability of the data-collection procedures and the test instruments is often performed through pilot tests (e.g. Gabriele, 2005; Rogers, 2009; Wright, 2010). A pilot test is a small scale trial of the data collection procedures and test instruments, strongly advocated by Gass and Mackey (2007:03), because it is ‘an important means of assessing the feasibility and usefulness of the data sampling and collection methods and revising them before they are used with the research participants’. Rogers (2009) states that in her study on syntactic development in

French L2, a pilot test was performed on beginning learners (*ab initio*) of French ‘to ensure that the explanations of the tasks were clear, that the tasks elicited the target responses, how long the tasks took to administer and that they were not too advanced for learners without much exposure to French’ (Rogers, 2009:182). The validity of a study’s data and conclusions often follow on from reliability measures. Norris and Ortega (2003:738) argue that study replication, that is, the use of identical data-collection procedures and instruments ‘is a fundamentally worthwhile endeavour [...] it is only through such exact replication (e.g. by measuring the same dependent variable) across research settings that trustworthy findings about a given variable may begin to accumulate’. Task validation has frequently been observed in tense and aspect SLA research with many studies using *Modern Times* for the basis of a story re-tell (e.g. Bardovi-Harlig, 1994; 1998; Bardovi-Harlig and Bergström, 1996; Comajoan, 2005; Labeau, 2005; Liskin-Gasparro, 2000; Salaberry, 1999). Chaudron (2003:801) also argues that validity results from ‘simultaneous measures within a study using other techniques (*triangulation*)’. Research designs based on different types of data-collection procedures, such as elicited production and experimental, have long been referred to as triangulation (Denizin, 1978). Triangulated research designs typically collect multiple data types to study the same phenomenon. For instance, a story re-tell (elicited production) and an interpretation task combine elicited production and experimental data-collection procedures. Triangulation has been argued to increase the strengths of a single method, whilst reducing the inherent weaknesses of an individual method (Chaudron, 2003; Dörnyei, 2007; Erzberger and Kelle, 2003; Mackey and Gass, 2005; Norris and Ortega, 2000, 2003; White, 2003). Dörnyei (2007:165) sees triangulation as an ‘effective strategy to ensure research validity’. For example, Ayoun (2005) combined elicited production and experimental data-collection procedures in a study on the L2 development of aspect in French. She used written personal narratives and a grammaticality judgement task. Gabriele (2005) also used a triangulated research design on the L2 development of aspect in English and Japanese. She combined oral interviews with a story compatibility task and a truth-value judgement task. In SLA, the triangulation of data-collection procedures is widely acknowledged as a major means for researchers to validate findings through the confirmation and validity of consistency and reliability across tasks

(Chaudron, 2003; Dörnyei, 2007; Gass and Mackey, 2007; Mackey and Gass, 2005; Norris and Ortega, 2000, 2003; Ortega, 2009; White, 2003).

In this chapter, the empirical design of the study is presented. It is organised into three main parts. The first part frames the study and includes a summary of cross-linguistic differences between languages (section 4.2), the study's research questions (section 4.3) and hypotheses and predictions (section 4.4). In the second part, the method is presented, including participants (section 4.5), the rationale for the methodology (section 4.6), and the tasks used to collect data (section 4.7). The final part of this chapter deals with the coding and analysis of spoken and interpretation data (section 4.8).

4.2 Cross-linguistic differences between English, French and German

Following Comrie (1976), Klein (1994) and Smith (1997), viewpoint aspect is argued to be a universal property of language. Therefore, all natural languages are able to express the same viewpoint meanings. However, not all natural languages express viewpoint in the same ways. The languages under investigation in the present study differ from each other in how they express perfective and imperfective viewpoint.

Although German is devoid of viewpoint aspect morphemes altogether (Comrie, 1976; Bertintto, 2001; Bohnemeyer and Swift, 2004), it is still able to convey viewpoint information. As discussed in Chapter 2, Bohnemeyer and Swift (2004) and Smith (2006) argue that in languages that lack viewpoint aspect morphemes, viewpoint information is interpreted from situation aspect information, or as Bohnemeyer and Swift (2004:266) put it, 'clauses and verbal projections not overtly marked for viewpoint aspect are assigned viewpoint-aspectual operators on the basis of the telicity of their event predicates'. This means that in the absence of aspectual morphemes atelic predicates entail imperfectivity and telic predicates entail perfectivity. This results in sentences receiving preferential interpretations (Bohnemeyer and Swift, 2004; Smith, 1997, 2006; Sonnenhauser, 2004, 2006, 2008). For example, accomplishments (telic) are interpreted perfectly and statives (atelic) imperfectly. Therefore, in German, tenses do not

mark viewpoint aspect like in French. Instead, viewpoint aspect is interpreted from the predicate's semantics and the discourse context.

French has one tense form for perfective viewpoint (PC) and a different one for imperfective viewpoint (IMP). Therefore, in French, viewpoint is marked by tense forms. The French IMP is a general imperfective and therefore is able to express all imperfective viewpoints, such as habitual and progressive viewpoints. For the imperfective viewpoints, discourse pragmatics and semantics disambiguate preferred interpretations; for example, adverbials disambiguate habitual from progressive viewpoint (everyday, always, frequently).

English also marks viewpoint aspect by tense. Unlike French, English lacks a general imperfective form. Progressivity is marked with the *Progressive* and habituality is marked using the SP, *would* and the periphrasis *used to*. The SP is also used to mark perfectivity. Therefore; in English, viewpoint disambiguation is marked in tense forms.

This summary highlights that English, French and German are all able to convey the same viewpoint meanings, but they differ in how they do it. In French, perfectivity is mapped to one form (the PC) and imperfectivity is mapped to a different form (the PC). Therefore, French has a clear form-meaning relationship for viewpoint aspect: one viewpoint meaning is mapped to one form. In English, the form-meaning relationship is not as clear. It lacks a general imperfective; therefore, the meanings subsumed within imperfectivity (e.g. habituality, progressivity) are marked differently. Progressivity is mapped to the *Progressive* and habituality is mapped to the SP, *would* and the periphrasis *used to*. Furthermore, perfectivity is also mapped to the SP. Therefore, English maps progressivity to one form (the *Progressive*) and habituality to three different forms (SP, *would*, *used to*). Whilst perfectivity is mapped to one form (SP), this same form also has habituality mapped to it. In contrast to both English and French, German lacks viewpoint aspectual morphemes. Therefore, viewpoint disambiguation cannot be made with tense. German instead interprets viewpoint information from situation aspect. Table 4.1 summarises the pairings of meanings and forms for viewpoint aspect in English, French,

and German. It shows the forms used to mark viewpoint aspect, where \checkmark stands for yes and X for no.

Form		Viewpoint		
		Perfective	Imperfective Progressive	Habitual
English	Progressive	X	\checkmark	X
	Simple Past	\checkmark	X	\checkmark
	<i>Used to</i>	X	X	\checkmark
	<i>Would</i>	X	X	\checkmark
French	Passé Composé	\checkmark	X	X
	Imparfait	X	\checkmark	\checkmark
German	Perfect	X	X	X
	Imperfect	X	X	X

Table 4.1: Form-meaning pairings for perfective and imperfective viewpoint aspect in English, French, and German

4.3 Research questions

One general and three specific research questions guide this study. These questions are only answered in relation to the development of viewpoint aspect in French L2. The general research question that guides the study is:

- Do L1 form-meaning differences for perfectivity and imperfectivity affect L2 development?

In order to address this general question, four specific research questions have been formulated:

- A. How do learners express perfective and imperfective viewpoint?
- B. What role do L1 form-meaning pairings have in the L2 development of viewpoint aspect?
- C. What role do semantic prototypes have in the L2 development of viewpoint aspect?
- D. What are the theoretical implications of L1 background and semantic prototypes for L2 development more generally?

The present study is designed to investigate two independent variables: (1) L1 influence, by comparing learners of different L1 backgrounds learning the same L2; and (2) L2 development, by comparing learners of different proficiency levels. In a cross-sectional study design, English-speaking and German-speaking learners of French L2 are selected at two significantly different levels of proficiency (see section 4.5 for more details). Proficiency levels are judged by an independent measure of proficiency (C-Test, see section 4.7.3). In addition, NS data are collected from a control group of French speakers. Control group data allow for comparison between learner development and native-like performance.

Research question (A) investigates how learners mark perfective and imperfective viewpoint. The focus is on documenting (1) the ways learners mark viewpoint and (2) how they contrast viewpoints. To answer this question, semi-guided narrative tasks are used. The tasks construct narratives using perfective and imperfective viewpoint and require learners to mark viewpoint contrast by switching from perfective viewpoint into imperfective viewpoint. In French, this is performed with tense.

Research question (B) builds on (A) from a comparative perspective: comparison of L1 differences and proficiency differences. For L1 differences, learners are split into groups based on their L1 background: a German group and an English group. This information is collected from a background questionnaire (see section 4.7.2). For proficiency differences, following C-test results, learners are furthermore split into proficiency groups: a low group and an advanced group. Therefore, there is: (1) an English low

group, (2) a German low group, (3) an English advanced group, and (4) a German advanced group. Low group learners are statistically significantly different from advanced group learners ($p < .001$). Learners from different L1 backgrounds at the same proficiency level do not differ significantly in their C-test scores (e.g. between English advanced and German advanced). To answer research question (B), all participants are requested to complete the same three tasks (two elicited production tasks and one experimental task) following the exact same procedure. Elicited production tasks (story re-tell) compare how learners mark viewpoint. To further test L1 influence, an experimental task (*Sentence Interpretation task*) compares viewpoint aspect marking in the L1 with the L2. Learners read a context in their L1 and judge two sentences in the L2 in terms of how appropriately they describe the L1 context.

Research question (C) specifically investigates the effect of semantic prototypes on the L2 development of viewpoint aspect. The influence of situation aspect, framed in the AH, on the L2 development of viewpoint was discussed in Chapter 3. Research has indicated that semantic prototypes are a universal influence on L2 development, with prototypical pairings between situation type and viewpoint type developing earlier than non-prototypical pairings (Andersen and Shirai, 1994, 1996; Bardovi-Harlig, 1994; Comajoan, 2006). To investigate research question (C), all tasks target prototypical and non-prototypical pairings; for example, use of the IMP with telic situation types and the PC with atelic situation types. Furthermore, the picture-based narratives elicit habituality in the past, requiring learners to narrate with the IMP due to its habitual viewpoint.

From the findings of research questions (A) – (C), the focus of (D) is on addressing L2 development more generally. The study comprises two different L1s with respect to viewpoint aspect marking and learners from two significantly different proficiency levels. Question (D) brings together the study's findings in relation to different influences on L2 development. L1 influence would result in a mapping problem because English- and German-speaking learners not only differ from each other in terms of their L1 form-meaning pairings for viewpoint aspect, but these L1 form-meaning pairings are also different from the L2 (French), as discussed in Chapter 2 and section 4.2. Universal

semantics would result in learners showing similarities in L2 development. Therefore, research question (D) aims to assess whether L1 background and universal semantics exhibit influence at different stages of L2 development, or whether they consistently interact throughout L2 development. In other words, can an L1 influence stage be distinguished from a universal semantics stage in L2 development?

4.4 Hypotheses and predictions

4.4.1 L1 background

As discussed in Chapter 3, Schwartz and Sprouse (1994, 1996) propose that in SLA a learner's L1 grammar initially constrains their hypotheses about the L2. This means that learners initially account for L2 input with their L1 grammar: the initial state in SLA is the steady-state L1 grammar. The consequence of this hypothesis in SLA is initial L1 influence, especially when the L1 differs from the L2 with respect to some linguistic property. For example, linguistic property X is marked one way in the L1 and it is marked in a different way in the L2. These different cross-linguistic means of marking the same property result in initial L1 transfer, according to Schwartz and Sprouse (1994, 1996). Importantly, however, Schwartz and Sprouse stress initial L1 influence in SLA because when learners' L1 is unable to fully accommodate the L2 input, learners undergo grammar restructuring to arrive at an analysis better suited to the L2 input. Grammar restructuring does not necessarily result in a native-like grammar, however. Therefore, learners are initially hypothesised to transfer their full L1 grammar to account for L2 input. But when their L1 grammar fails to make sense of it, exposure to L2 input results in grammar restructuring. In other words, whilst learners may start out with their L1 grammar, they are not stuck with it, according to Schwartz and Sprouse.

In Chapter 2, it was argued that aspect is a semantic universal: all natural languages are able to express aspect, but they differ in how they do it. Therefore, English, French and German are able to convey the same viewpoint aspect meanings, but with differences in how they do it. With regard to Schwartz and Sprouse's (1994, 1996) full transfer hypothesis, L1 transfer can be predicted because of L1–L2 differences in how viewpoint

aspect is conveyed. Most important, however, and as advanced in this thesis, is the universal property of aspect because learners do not need to acquire anything new: aspect is conveyed in both the L1 and the L2. Therefore, learners do not need to acquire aspect in the L2. The L2 learning task involves working out the L1-L2 differences for conveying viewpoint aspect. In other words, the learning task is not to acquire viewpoint aspect but it is establish new form-meaning pairings for viewpoint aspect. According to Lardiere (2009:191), ‘it seems plausible to assume [...] that learners will look for morpholexical correspondences in the L2 to those in their L1, presumably on the basis of semantic or grammatical function’. Indeed, as noted in Chapter 3, Montrul and Slabakova (2002, 2003) and Salaberry (2008) advocate that this view of L2 development, where L2 learners appear to initially use the L1 as an initial ‘working hypothesis’. Applied to the L2 development of viewpoint aspect, it is predicted that learners will *initially* mark viewpoint aspect in the L2 as they do in their L1. Establishing and testing these new L2 form-meaning pairings constitutes the ‘formidable learning task’ (Lardiere, 2009:175).

Variability (or optionality) in the use of (verbal and nominal) inflections and lexical items (or forms) was discussed in Chapter 3. Proponents of the Missing Surface Inflection Hypothesis (e.g. Haznedar and Schwartz, 1997; Lardiere, 1998a, 1998b, 2000, Lardiere and Schwartz, 1997; Prévost and White, 1999, 2000; Robertson, 2000) claim, as its name suggests, that is not the abstract grammatical representation in the L2 grammar that is missing. Rather what is missing is its connection with form (or surface morphology). Furthermore, the surface morphology may not always be missing; it may just not be consistently retrieved, referred to as ‘mapping problems’ (Lardiere, 2000; Slabakova, 2008). As Hawkins (2000) puts it, missing surface inflection is a computation problem between abstract structure and surface form.

The Missing Surface Inflection Hypothesis (MSIH) applied to the L2 development of viewpoint aspect results in potential variability in how viewpoint information is conveyed. As L2 learners do not need to acquire viewpoint meanings because they exist in their L1, what they do need to learn are the native-like form-meaning pairings for viewpoint aspect in French. For Lardiere (2009), L2 form-meaning pairings are

constructed from ‘sound-meaning pairings available to the learner in the linguistic input’. Therefore, and as also noted by Herschensohn (2000) and Gess and Herschensohn (2001), with increased exposure to naturalistic input comes more consistent retrieval of surface forms.

If L2 learners are initially influenced by their L1 (as Schwartz and Sprouse suggest) and consequently base their L2 system for conveying viewpoint aspect on their L1 as an initial ‘working hypothesis’, it can be predicted that due to differences in L2 proficiency and amount of exposure to L2 input low group learners will be influenced more by their L1 form-meaning pairings for viewpoint aspect than advanced group learners. In addition, differences in amount of exposure to naturalistic L2 input and proficiency in French will result in low group learners being more susceptible to ‘mapping problems’ than advanced group learners. This allows for a number of predictions for the L2 development of viewpoint aspect in French to be made. The following predictions are based on a contrastive analysis of how viewpoint aspect is conveyed in the L1 compared to French L2.

English low group learners

In English, progressive viewpoint is conveyed by one form (the *Progressive*), habitual viewpoint is conveyed by at least three different forms (the SP, *would*, and *used to*) and perfective viewpoint is conveyed by the same form that also marks habituality (the SP). English past tenses mark past time reference and viewpoint aspect. Based on a contrastive analysis between English and French for viewpoint aspect, it is predicted that low group English-speaking learners of French will initially use one form to mark progressive viewpoint (as in their L1) and perfective and habitual viewpoint onto a different form (as in their L1). Other means, such as the conditional and lexical periphrases (e.g. *avoir l’habitude de faire qch* ‘be used to doing something’) may also be used to mark habituality. English-speaking learners will map temporal and viewpoint information to tense.

German low group learners

As German is devoid of viewpoint aspectual morphemes, viewpoint aspect is not conveyed by tense (as in English and French). Instead, viewpoint information is interpreted from situation aspect (i.e. ‘telicity-dependent aspectual interpretation’). Therefore the German past tenses do not mark viewpoint aspect, but just past time reference. Based on a contrastive analysis between German and French for viewpoint aspect, it is predicted that low group German-speaking learners of French will initially not use tense to convey viewpoint aspect. Instead, they will rely on a predicate’s situation type for viewpoint interpretation (e.g. telic = perfective). Therefore, learners will initially map temporal reference to tense, but not viewpoint aspect.

Table 4.2 shows predicted outcomes for the pairing of viewpoint aspect with forms based on a contrastive analysis between learners’ L1 form-meaning pairings and French L2.

Form		Viewpoint		
		Perfective	Progressive	Imperfective Habitual
French speakers	Form-1	√	X	X
	Form-2	X	√	√
English speakers	Form-1	√	X	√
	Form-2	X	√	X
German speakers	Form-1	X	X	X
	Form-2	X	X	X

Table 4.2: Hypothesised initial form-meaning pairing outcomes for French L2

As it cannot be predicted which forms (e.g. PC or IMP) learners will map meanings to, forms have been labelled Form-1 and Form-2. Indeed, learners may use many different forms, but this goes beyond predictions based on L1 form-meaning connections. Table 4.2 shows that German-speaking learners of French L2 will initially not map viewpoint aspect to tense forms. In contrast, English-speaking learners will map viewpoint aspect to tense forms. Perfectivity and habituality will be mapped to one form and progressivity will be mapped to a different form. These predicted initial L2 form-meaning pairings are derived from learners’ L1 system for conveying viewpoint aspect. French speakers have perfectivity mapped to one form and progressivity and habituality mapped to a different

form. The learning task for English speakers is to map habituality to the same form as progressivity and for German speakers this is to map viewpoint aspect to tense and then perfectivity to one form and imperfectivity to a different form.

Due to mapping problems, it can be predicted following the MSIH that low group learners will show variability in their use of forms in perfective and imperfective contexts. Variability is considered to reflect a ‘mapping problem’ between abstract grammatical knowledge and surface forms. This is because L2 learners do not need to acquire a grammatical representation for viewpoint aspect. What is argued to differ between the L1 and the L2 is not the abstract knowledge of viewpoint aspect, but the mappings between forms and abstract knowledge. As L2 proficiency and amount of naturalistic exposure increases, variability has been shown to decrease (e.g. Herschensohn, 2000; Gess and Herschensohn, 2001). This results in more consistent retrieval of surface forms reflecting more native-like form-meaning pairings. This allows for a number of predictions for the L2 development of viewpoint aspect in French to be made. The following predictions are compared to those made for low group learners taking into consideration increased L2 proficiency and amount of naturalistic exposure to French.

English-speaking learners

Advanced group English-speaking learners of French will map progressive viewpoint onto one form and perfective onto a different form (as English low group learners). However, habituality will be remapped onto the same form as progressivity (in contrast to English low group learners). English advanced group learners will show less variability than English low group learners in their use of surface forms to mark viewpoint aspect.

German-speaking learners

In addition to temporal reference, advanced group German-speaking learners of French will use tense to mark viewpoint aspect. Progressive and habitual viewpoint will be mapped onto one form and perfective onto a different form. German advanced group learners will show less

variability than German low group learners in their use of surface forms to mark viewpoint aspect.

4.4.2 Semantic prototypes

According to the Aspect Hypothesis (Andersen and Shirai, 1994, 1996; Bardovi-Harlig, 1994) prototypicality guides L2 development. This hypothesis is formulated from a set of descriptive generalizations based on semantic prototypes. It is largely an application of Prototype Theory (Rosch, 1973; 1978; Rosch and Mervis, 1975) predicting that L2 learners ‘acquire a linguistic category by starting with the prototype of that category and later expand its application to less prototypical cases’ (Slabakova, 2002:178). For the Aspect Hypothesis (AH), L2 development is characterized by pairing semantic prototypes of viewpoint and situation. Therefore, perfective viewpoint is characterized as ‘complete’, which is paired with situation types of the same ‘complete’ characterization, essentially telic situation types (achievements and accomplishments). Imperfective viewpoint has the meaning ‘not complete’ or ‘ongoing’, which is paired with atelic situation types (statives and activities). As prototypes are hypothesised to be a universal feature of human categorization, they are therefore innate and predetermined. Because the AH is a hypothesis based on universal semantic prototypes, it does not make predictions between learners of different L1 background. For the AH, L1 background does not influence L2 development. Andersen and Shirai (1994, 1996), founders of the AH, propose that L2 development is linear: L2 learners begin with prototypical combinations and develop towards non-prototypical ones in defined stages:

- Learners first use perfective marking [the PC] on achievement and accomplishment verbs, eventually extending its use to activities and stative verbs.
- In languages that encode the perfective/imperfective distinction, imperfective past [the IMP] appears later than perfective past [PC], and imperfective past marking begins with stative verbs and activity verbs, then extends to accomplishment and achievement verbs.

(Andersen and Shirai, 1996:533)

Based on this hypothesis, differences between learners can be predicted for the acquisition of viewpoint in French L2. Firstly, differences are predicted between learners of different proficiencies and not of different L1 backgrounds. Therefore, English and German learners will not be significantly different from each other at the same proficiency level. Following Andersen and Shirai's (1996) formulation of the AH, the following predictions for the development of viewpoint aspect in French L2 are made:

- Low group learners will be influenced more by semantic prototypes than advanced group learners. They will use the PC more with telic than atelic situation types and the IMP more with atelic than telic situation types. For low group learners, use of the PC and the IMP will be influenced by the situation type of the predicate
- Due to increased L2 proficiency and amount of naturalistic exposure to French, advanced group learners will show more use of non-prototypical pairings than low group learners. They will use the PC more with atelic situation types than low group learners. They will use the IMP more with telic situation types than low group learners. For advanced group learners, use of the PC and IMP will be influenced less by the situation type of the predicate.

Therefore, whilst French native speakers' use of the PC and the IMP will not be influenced by a predicate's situation type, it can be predicted that learners will be significantly influenced by prototypicality. Accordingly, in line with the AH's predictions for L2 development, low group learners' tense selection will show greater prototypical influence than advanced group learners.

4.5 Participants

This study involves 75 learners and a control group of six native speakers of French. Learners are divided up according to: (1) L1 background and (2) proficiency level. L1

background information is collected from all participants on a background questionnaire administered before data collection. Proficiency level is independently measured by a C-test (see section 4.7.3 for details on the C-test used in the study). Each participant is scored out of 123. Learners scored between 53 and 114 out of 123 with a mean score of 83.77 (SD=22.58). Learners are divided into proficiency groups based on their performance in the test: learners scoring below the mean are placed in a ‘low group’ (score range: 53-78) and learners scoring above the mean are placed in an ‘advanced group’ (score range: 92-114). These group labels (‘low’ and ‘advanced’) are labels to differentiate between groups and to indicate that advanced group learners performed more accurately in the C-test than low group learners.

	M(SD)					F(4, 76)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	Control group (n=6)	
C-test Scores	59.47(6.63)	63.95(6.16)	98.47(6.63)	101.89(6.58)	122.67(.52)	239.288**

**p<.001

Table 4.3: Comparison of C-test results for learners and NS

Table 4.3 shows that for the C-test scores an ANOVA indicates statistically significant differences between learners and NS. Tukey Post Hoc tests showed that: (1) English and German low group learners’ scores differ significantly from English and German advanced group learners’ scores ($p<.001$); and (2) French NSs’ scores differ significantly from low group and advanced group learners’ scores ($p<.001$). There are no significant differences between: (1) English low group and German low group learners and (2) English advanced and German advanced group learners. Therefore, these tests show significant differences between proficiency groups, but not between L1 backgrounds at the same proficiency level (i.e. German low group learners are not statistically significantly different from English low group learners). Individual C-test scores are presented with participant group descriptions in sections 4.5.1 – 4.5.5.

A breakdown of the learner groups is presented in Table 4.4, including information on: the number of participants, mean age, and mean years of exposure to French:

Group	low group		advanced group	
	English L1	German L1	English L1	German L1
N	19	19	19	18
Mean age	18.3	20.5	20.9	23.5
Mean years of exposure to French	7.9	7.9	11	11.4

Table 4.4: Participants

Participants in this study are volunteers, recruited from university modern languages departments through flyers, announcements, and visits to French language classes. English-speaking participants are university students from a British University and German-speaking participants are university students from a German University¹³. Participants are informed that they are taking part in a comparative research project on French L2. All learners are either English- or German-speaking learners of French L2. Other L1 backgrounds and bilinguals are excluded from the study.

4.5.1 English low group

There are 19 participants in the English low group. All participants are native-speakers of English studying French as part of a BA Honours degree at a British University. In the British higher education system, these learners are in Year 1 of a four-year degree programme. Table 4.5 presents a detailed breakdown of the English low group learners.

¹³ I am most grateful to Richard Waltereit, Philipp Obrist and Max Grosse for helping me contact and recruit German-speaking learners and to Franck Michel and Eugene Stemp for their assistance with English-speaking learners.

ID	Sex	Age	Time in Francophone country	Additional languages	C-test scores
E01_LG	M	18	-	-	63
E02_LG	M	18	3 months	Spanish, German	55
E03_LG	M	19	1 month	Spanish	56
E04_LG	F	20	-	Spanish	53
E05_LG	F	18	-	Spanish, German, Welsh	54
E06_LG	F	18	-	Spanish, Chinese	53
E07_LG	F	18	-	Spanish, German	67
E08_LG	F	18	1 month, 1 week	-	61
E09_LG	M	18	2 months	Spanish	59
E10_LG	F	18	1 week	Spanish, Chinese	55
E11_LG	F	18	3 weeks	Spanish, German	53
E12_LG	F	18	4 weeks	Spanish, German	60
E13_LG	F	18	1 week	Spanish	66
E14_LG	F	18	1 week	Spanish	53
E15_LG	M	18	1 month	Spanish	75
E16_LG	F	19	-	Spanish	64
E17_LG	F	19	-	Spanish	58
E18_LG	F	18	3 weeks	Spanish, German	54
E19_LG	F	18	1 week	Spanish	71

Table 4.5: Participants in the English low group

The data in Table 4.5 show that the majority of low English L1 participants are aged between 18 and 19. In addition to French, almost all participants indicate knowledge of at least one other language. 17 participants indicate knowledge of Spanish and six knowledge of German. Participants have spent time abroad in a Francophone country in the context of school exchanges, trips and family holidays ranging from 1 week to 3 months (mean length of stays abroad: 31.1 days).

4.5.2 German low group

There are 19 participants in the German low group. All participants are native-speakers of German studying French as part of a Magister Artium degree in Germany. The learners are in Year 1 of this 4.5 year degree programme. Table 4.6 presents a detailed breakdown of the German low group learners.

ID	Sex	Age	Time in Francophone country	Additional languages	C-test scores
G01_LG	F	22	2 months	English, Spanish, Latin	71
G02_LG	F	21	10 months	English, Russian	63
G03_LG	F	19	6 months	English	75
G04_LG	M	22	-	English, Latin, Greek, Hebrew	63
G05_LG	M	19	-	English, Spanish	61
G06_LG	F	19	-	English, Spanish, Latin	58
G07_LG	F	19	6 months	English, Catalan	66
G08_LG	F	19	-	English, Spanish, Latin	53
G09_LG	M	26	9 months	English	58
G10_LG	F	20	11 months	English, Spanish	73
G11_LG	F	19	-	English, Latin	70
G12_LG	F	22	-	English	54
G13_LG	F	28	12 months	English	64
G14_LG	M	21	1 month, 2 weeks	English	60
G15_LG	F	19	3 months	English, Russian	67
G16_LG	M	20	2 months	English	61
G17_LG	M	20	10 months	English	70
G18_LG	F	19	-	English	67
G19_LG	F	24	6 months	English	61

Table 4.6: Participants in the German low group

The data in Table 4.6 show that the majority of German low group participants are aged between 19 and 22 (sixteen participants) with three participants slightly above this average (24, 26, and 28 years old). In addition to French, all participants indicated knowledge of at least one other language. In all cases, participants indicated knowledge of English. Participants have spent time abroad in a Francophone country in the context of school exchanges, summer work placements, au pair work, ranging from one to twelve months (mean length of stays abroad: 125.4 days). German low group learners have spent, on average, more time abroad in French-speaking countries than learners in the English low group.

4.5.3 English advanced group

There are 19 participants in the English advanced group. All participants are native-speakers of British English studying French as part of a BA Honours degree at a British University. In the British higher education system, these participants are in Year 4 of a

four-year degree programme¹⁴. Table 4.7 presents a detailed breakdown of the English advanced group learners.

ID	Sex	Age	Time in Francophone country	Additional languages	C-test scores
E01_AG	M	21	12 months	-	102
E02_AG	F	21	5 months	German	94
E03_AG	F	21	6 months	Spanish	95
E04_AG	F	22	6 months	Spanish	92
E05_AG	M	22	6 months	Spanish	93
E06_AG	F	22	10 months	Spanish, Dutch	92
E07_AG	F	21	4 months	Spanish	106
E08_AG	F	21	4 months	Spanish, Portuguese	100
E09_AG	M	22	6 months	Spanish	98
E10_AG	F	24	5 months	Spanish	94
E11_AG	F	21	8 months	Spanish	92
E12_AG	F	22	8 months	-	99
E13_AG	F	22	-	German, Chinese	105
E14_AG	M	23	8 months	Spanish, Italian	92
E15_AG	F	23	3 months	Spanish	114
E16_AG	F	22	5 months	Spanish, Portuguese	103
E17_AG	F	21	10 months	-	97
E18_AG	M	21	5 months	Spanish	93
E19_AG	M	21	7 months	Spanish	110

Table 4.7: Participants in the English advanced group

The data in Table 4.7 shows that the majority of English advanced group learners are aged between 21 and 22, with only three participants aged over 22. In addition to French, 17 participants indicate knowledge of at least one additional language. 14 participants indicate knowledge of Spanish. Participants have spent time abroad in a Francophone country in the context of work placements, teaching assistantships and ERASMUS exchanges ranging from three to twelve months (mean: 188.3 days). Participant E13_AG indicates no time spent abroad in France. This participant studied Chinese and French and chose to spend the year abroad in China rather than splitting it between France and China. On average, English advanced group learners have spent more time abroad in a French-speaking country than learners in the low groups.

¹⁴ In order to progress to Year 4, students are required to pass assessments leading from Year 1 to Year 4. University students spend Year 1 and Year 2 studying at university. Year 3 is spent abroad on a work or study placement. The year is often split between countries when a student studies more than one foreign language (e.g. Spanish and French). However, although splitting the year between two countries is advised, it is optional.

4.5.4 German advanced group

There are 18 participants in the German advanced group. All participants are native-speakers of German studying French as part of a Magister Artium degree in Germany. The learners are in Year 4 of this 4.5-year degree programme. Table 4.8 presents a detailed breakdown of the German advanced group learners.

ID	Sex	Age	Time in Francophone country	Additional languages	C-test scores
G01_AG	F	36	12 months	English, Spanish	99
G02_AG	F	23	3 weeks	English, Italian	92
G03_AG	F	24	6 months	English, Spanish, Latin, Italian	114
G04_AG	M	31	-	English, Latin	102
G05_AG	F	22	5 months	English, Italian	100
G06_AG	F	24	3 weeks	English, Spanish	97
G07_AG	M	25	6 months	English, Latin, Italian	105
G08_AG	M	28	10 months	English	92
G09_AG	F	22	3 months	English, Spanish, Latin	97
G10_AG	M	24	9 months	English, Latin, Italian	112
G11_AG	F	25	18 months	English	109
G12_AG	F	22	1 month, 2 weeks	English, Italian, Russian	93
G13_AG	F	23	7 months	English, Latin	103
G14_AG	F	25	9 months	English, Spanish, Latin, Italian	99
G15_AG	F	25	30 months	English, Spanish, Latin	105
G16_AG	F	24	7 months	English, Spanish	100
G17_AG	F	26	9 months	English, Spanish	109
G18_AG	F	22	-	English	106

Table 4.8: Participants in the German advanced group

The data in Table 4.8 show that the German advanced group participants show wider age variations, ranging on average from 22 to 26. There are three participants that exceed this average age range, aged 28, 31, and 36. In addition to French, all participants indicate knowledge of at least one additional language. In all cases, participants indicate knowledge of English. Furthermore, 15 participants indicate knowledge of another Romance language and 8 knowledge of Latin. Participants have spent time abroad in a Francophone country in the context of work placements, teaching assistantships and ERASMUS exchanges, ranging from 3 weeks to 2.5 years (mean: 225.7 days). Two participants (G04_AG and G18_AG) indicate no time spent abroad in a Francophone country. On average, German advanced group learners have spent more time abroad than any other learner group: English advanced group (M=188.3 days); German low group (M=125.4 days); English low group (M=31.1 days).

4.5.5 French native speakers

There are six participants in the control group. All participants are native-speakers of French (from France) enrolled in university courses studying English in France. They are taking part on an ERASMUS exchange programme at a British University. Data collection took place within six weeks of their arrival in the UK. Table 4.9 presents a breakdown of the control group.

ID	Sex	Age	C-test scores
C01	F	21	122
C02	F	20	123
C03	F	20	123
C04	M	31	122
C05	F	21	123
C06	F	20	123

Table 4.9: Participants in the control group

4.6 Tasks: rationale

In this study, two elicited production tasks and one experimental task, in addition to an independent proficiency measure and a background questionnaire, were administered. The tasks elicit viewpoint marking in French L2. Full details of the tasks are outlined in section 4.7. Before that, the rationale behind the selection of these tasks in particular is presented.

4.6.1 Production data

Although there are many different kinds of production task used in SLA research, they typically collect spontaneous data in spoken and/or written form. Although White (2003:62) remains sceptical as ‘to what extent spontaneous production data accurately reflect properties of the underlying grammar’, Myles (2004:139) argues that production data are ‘an important window into their [L2 learners] mental representations’. In fact, Myles stresses that this is especially the case for oral over written data:

For the purposes of fundamental SLA research, oral data is an important window into learners' underlying mental grammars, and may be relatively freer of metalinguistic interference than written data, which is complicated by additional layers of learnt knowledge and monitoring processes.

(Myles, 2005:376)

Myles (2004, 2005) argues that production data can be seen to reflect more directly the nature of the L2 learner's linguistic competence. However, this seems to rest largely on the nature of the structure under investigation. For example, overt structures such as tense and finiteness can be investigated relatively easily with production data (e.g. Lardiere, 1998a, 1998b, 2000, 2005), other less overt structures such as the Overt Pronoun Constraint (e.g. Kanno, 1997; Pérez-Leroux and Glass, 1999) and wh-quantifier extractions (e.g. Dekydtspotter and Sprouse, 2001) arguably require more controlled and targeted data-collection procedures, such as experimental ones. In this study, spoken production data will be used due to its more spontaneous nature and to avoid 'metalinguistic interference' and monitoring associated with written data.

4.6.2 Experimental data

As discussed in section 4.1, experimental data-collection procedures can be split into three principal types, which include (but are not restricted to) judgement and interpretation tasks. For White (2003) the principal judgement tasks are Grammaticality Judgements (GJ) and Truth Value Judgements (TVJ) / Sentence Interpretations (SI). These tasks require learners to make judgements on language based on intuition. The difference between production and intuition data follow Chomsky's (1965:03) distinction between competence and performance: Competence is 'the speaker-hearer's knowledge of his language' and performance is 'the actual use of language in concrete situations', with performance underdetermining competence (Chomsky, 1965:03). Therefore, from the types of data output, the intuition task aims to target the L2 learner's linguistic competence (knowledge of language), whilst the production task aims to target the L2 learner's actual use of language. Indeed, production data will provide evidence for competence, but it may also underdetermine or overdetermine it. Therefore, when combined, production and experimental data-collection procedures triangulate methods to

better document two different aspects of the language whole: linguistic competence and performance.

In aspect SLA research, the aim of the judgement task is to access the interpretations learners attribute to sentences. For this purpose, Slabakova (2008) argues that only the TVJ / SI task can do this:

It is hard to argue that a grammaticality judgement captures the interpretation a speaker attributes to a sentence. In a GJT, participants are asked to attend to the *form* of sentences and whether they sound OK to them. Even if considerations of learners applying metalinguistic knowledge are excluded, it is still not always clear what the reason(s) may be for marking a sentence as unacceptable.

(Slabakova, 2008:127)

For Slabakova, a difference in function separates the GJ from TVJ/SI tasks. This is because all sentences in TVJ/SI tasks are generally grammatical under some interpretation. Learners are asked about the meaning of sentences and not about form.

In the present study, a SI task will be used alongside production tasks to investigate form-meaning pairings for viewpoint aspect. A SI task will assess the interpretations learners attribute to forms, especially if these are not used in production. For instance, if the L2 learner uses the PC for imperfective viewpoint in production but then overwhelmingly selects it with perfective viewpoint in interpretation (at above chance levels), then it is reasonable to conclude due to performance-competence underdetermination that the L2 learner has reconfigured L1 form-meaning pairings in competence, but this mapping has not yet extended to performance. Therefore, in this study, a SI task will be used to gain access to the interpretations learners attribute to sentences.

4.6.3 Proficiency test

Documenting and accounting for varying levels in proficiency in SLA research is advocated by Norris and Ortega (2000, 2003) and Chaudron (2003). They argue for a measure of proficiency that is independent from the main study. For example, in a study on L2 syntactic development, Rogers (2009) used a non-syntactic measure of proficiency, a vocabulary test (Xlex). The use of an independent measure of proficiency for SLA research in tense and aspect is echoed by Salaberry and Ayoun (2005). As the focus of

this study is on aspect, a measure of non-aspectual proficiency was selected: A C-test. The C-test is widely used in language testing circles, in a wide variety of languages and in a number of contexts; for example, schools, universities, placement tests, and research tool in linguistics (Coleman, 1994; Eckes and Grotjahn, 2006; Grotjahn, Klein-Braley and Raatz, 2002). The main advantages of the C-test are its straight-forward administration, scoring, and high reliability (Eckes & Grotjahn, 2006:290-1). Although it has been used extensively as a measure of general language proficiency (Daller, van Hout and Daller-Treffers, 2003), there still remains controversy on what the C-test actually measures (Alderson, 2002; Carroll, 1987; Hastings, 2002; Klein-Braley and Raatz, 1984;). Despite criticisms that the C-Test may be a measure of reading ability (Cohen, Segal, and Weiss Barr-Siman-Tov, 1985) or micro-level skills (Stemmer, 1991), a considerable amount of research has attested to its ability to tap macro-level skills and processing (Grotjahn, 2002; Grotjahn and Stemmer, 2002; Kontra and Komos, 2006; Singleton and Singleton, 2002) leading Hastings (2002:24) to conclude that ‘the value of C-testing as a measure of global proficiency in a L2 has been demonstrated too many times to be open to dispute’. Due to the attested reliability of the C-test as a measure of general language proficiency, a C-test is used in this study.

4.7 Data collection materials

The three tasks used in the present study are developed from existing tasks created and used by the *Spanish Learner Language Oral Corpora 2* research team¹⁵ (Domínguez, Myles, Mitchell, Tracy-Ventura and Arche; see: <http://www.splloc.soton.ac.uk>). The data collection materials and procedures are presented here.

4.7.1 Consent form

All participants are given a consent form, written in the learner’s L1 (see Appendix F). The consent form provides details of the research project and explains how the

¹⁵ The SPLLOC 2 research team created and used five tasks on the ERSC-funded project titled ‘The Emergence and Development of the Tense-Aspect System in Spanish L2’. Permission was granted for the adaptation and use of three of these tasks in the present study.

information collected during data collection will be used, such as in research seminars and publications. The consent form is based on an existing consent form created and used by the FLLOC research team (Myles, Mitchell, Rule and David, see: <http://www.flloc.soton.ac.uk>). The consent form's purpose is to gain consent from participants and conform to ethical procedures.

In a review of ethical issues in SLA, Thomas (2009) argues that research design should take into consideration at least three ethical issues:

Scholars who gather data from language learners face the usual dilemmas entailed by empirical work: they must secure the requisite privacy and freedom from coercion for participants in studies of second language (L2) learning; avoid deceiving participants while at the same time protecting participants' capacity to respond without prejudice to the content of the study; and balance confidentiality with the need to present research results to the public in the fullest, most transparent, detail possible.

(Thomas, 2009:494)

This study follows the ethical procedures recommended by the *British Association for Applied Linguistics' Recommendations for Good Practice in Applied Linguistics* (BAAL, 2009) and *Newcastle University's Ethics Committee* (Newcastle University, 2010). The *British Association for Applied Linguistics* (BAAL) recommends researchers take into consideration the following responsibilities to informants:

- Obtaining informed consent
- Respecting a person's decision not to participate
- Confidentiality and anonymity
- Consulting informants on completion of the research

Following these recommendations, participants are briefed on the nature of the research project without revealing the precise nature of its line of enquiry. Participants are also informed that: (1) participation is voluntary, (2) they can withdraw from the research at any time and for any reason, and (3) all data will be fully anonymised. Participants are provided with their own copy of the consent form. Participants are also asked if they want to be informed when the research is completed and written up.

4.7.2 Foreign languages questionnaire

The Foreign Languages questionnaire is a series of open-ended questions relating to a participant's experience in French L2 (see Appendix A). Background questionnaires are widely used in SLA research to collect bio-data from participants and document experience in the L2 (e.g. Ayoun, 2004; Gabriele, 2005; Labeau, 2005; Rogers, 2009; Wright, 2010). In the questionnaire, there are three question types: (1) questions to identify participants, (2) questions on participants' L1 and knowledge of other languages, and (3) questions relating to learning French. The questionnaire design requests specific information on participants' background in French, including: (a) age of first contact with French, (b) how often French is spoken, (c) context for contact with French (e.g. school), and (d) total lengths of stay in foreign-speaking countries. It is important to collect background information of this nature to document for input as closely as possible, such as participants with French-speaking parents, and extensive stays abroad. As all participants in the study have had previous exposure to French (see Table 4.3 for group comparisons of mean exposure to French), it is likely that the input types they have received will have been diverse, especially as participants are recruited from at least two different education systems (UK and Germany). For this reason, age of exposure to French, context for contact and stays abroad are important variables to control.

4.7.3 Proficiency test

The French C-test used in this study (see Appendix B) is based on a version used by the *Learner Language Project* research team (Treffers-Daller, Daller, Phelan, Rosenberg, Snow, Beeching, Lewis, Chivers, and Larrañaga; see <http://www.uwe.ac.uk/hlss/llas/bcl/uwellp/index.shtml>). The C-test is created from five short texts. Each text is from a published newspaper article and begins and ends with an unaltered sentence. From the second sentence onwards, the second half of each second word is deleted and replaced with a blank space. Proper nouns are left unaltered. The C-test contains 123 blanks to be filled. Figure 2 is an extract from the French C-test:

La grève s'atténue sur le réseau Paris-Nord

Le mouvement de grève lancé hier par les conducteurs et contrôleurs de la SNCF officiant sur les lignes K et H du réseau Paris-Nord devrait s'affaiblir aujourd'hui. Hier mat__, un tra__ sur de__ roulait su__ la lig__ K, contre u__ train su__ trois su__ la lig__ H. Les grév__ ont recond__ le mouve__ au cou__ d'une assem__ générale, bi__ que celu__ ne semb__ pas avo__ été forte__ suivi.

La grève, décidée pour des motifs salariaux et pour des questions de notation, devrait encore s'affaiblir aujourd'hui, selon la SNCF, qui prévoit une reprise normale du trafic sur la portion K.

Figure 2: French C-test extract

The scoring for the C-test often follows two formats: (1) only exact solutions as those found in the source text are accepted or (2) variations on spelling and meaning are accepted. Following Daller, van Hout and Daller-Treffers (2003), Grotjahn and Eckes (2006), and others, only exact solutions as those found in the source text are accepted. Each participant receives a score out of 123. The present study uses these scores to determine the participant's proficiency level. These scores are used to separate participants into proficiency-based groups, as presented in Section 4.5.

4.7.4 Picture narrative task 1: Les sœurs

Les sœurs is a picture narrative based on two sisters' holiday to Spain (Appendix C). It is a French translated version of the Spanish picture story *Las Hermanas* created by ©2008 SPLLOC. It is used with permission granted from ©SPLLOC (Domínguez *et al.*, 2009). The goal of this task is for participants to narrate a story in the past with viewpoint shifts. The story contains 26 images. The story's plot is as follows:

Page	Narrative plot
1	Lana and Alex went on holiday to Spain in the summer of 2006.
2	In Madrid, they visited the city centre. They ate tapas and drank wine.
3	Then they went to Barcelona. They took the train. Whilst on the train, they spoke about their childhood.
4	In 1996 they used to be very different.
5	When Alex was a little girl, she used to read books, paint pictures and write stories.
6	During the week, Alex used to get up early and finish her homework early.
7	When Lana was a little girl, she used to play football and used to go to the cinema.
8	During the week, Lana used to cycle to school and arrive to class late.
9	She used to do her homework late at night and go to bed late.
10	Then, suddenly, on the train there was an accident. The sisters wondered what the cause of the accident could have been.
11	Alex felt some raindrops on her head.
12	Lana asked the train conductor for some help. They got new seats.
13	At last they could relax.
14	In Barcelona, they ate pizza and laughed about the eventful journey.

As the plot outline shows, this narrative task uses and contrasts perfective and imperfective viewpoints at different points in the story. When participants begin the story they describe the sisters' holiday as a one-time event. This requires perfective viewpoint (i.e. the PC). Whilst on the train journey the sisters speak about their childhood, inducing a narrative shift as they begin to talk about their childhood. This shift to a habitual narrative requires imperfective viewpoint (i.e. the IMP). One last narrative shift occurs when the sisters' conversation on the train is interrupted by an accident. This shift returns the storyline back to the previous one-time event narrative (i.e. the holiday). Not only are there viewpoint switches, but different viewpoints are combined with different situation types. Table 4.10 shows the different viewpoint-situation type combinations in the task.

	Perfective	Imperfective
Stative	(réfléchir) à la cause de l'accident 'think about the cause of the accident'	(être) très différentes 'be very different'
	(avoir) de nouveaux sièges 'have new seats'	
Activity	(manger) des tapas 'eat tapas'	(lire) des livres 'read books'
	(boire) du vin 'drink wine'	(peindre) des dessins 'paint pictures'
	(visiter) le centre-ville 'visit the city centre'	(écrire) des histoires 'write stories'
	(parler) de leur enfance 'speak about their childhood'	(jouer) au foot 'play football'
	(se détendre) 'relax'	(faire) du vélo 'bike ride'
	(manger) des pizzas 'eat pizzas'	
	(rire) des événements du voyage 'laugh about the journey's events'	
Accomplishments	(prendre) le train 'take the train'	(apprendre) ses leçons tard la nuit 'do homework late at night'
		(aller) au cinéma 'go to the cinema'
		(finir) ses devoirs tôt 'finish homework early'
Achievements	(sentir) des gouttes de pluie 'feel rain drops'	(se lever) tôt 'get up early'
	(demander) l'aide du contrôleur 'ask the conductor for help'	(arriver) en retard en cours 'arrive late to class'
	(avoir) un accident ¹⁶ 'have an accident'	(se coucher) tard 'go to sleep late'

Table 4.10: Viewpoint and situation types in *les sœurs*

¹⁶ As noted in Chapter 2, situation types are classified based on predicates and not just verbs. 'Avoir' is typically classified as a stative, but the noun phrase 'un accident' coerces this predicate into an achievement.

Table 4.10 shows that telic and atelic situation types are used with both viewpoint types. These viewpoint-situation type combinations allow for investigation of semantically prototypical (e.g. perfective and telic) and non-prototypical pairings (e.g. perfective and atelic). Furthermore, the story contains illustrations of the sisters' holiday trip with keywords and a number of set expressions to be used when narrating the story, such as *ensuite* ('then'), *en route pour Barcelone!* ('on the way to Barcelona!') and *pendant la semaine, Alex...* ('during the week, Alex...'). These expressions not only help guide and progress the narrative, but they also ensure learners stick to the right viewpoint type. Pictures are accompanied by a bracketed untensed verb and additional verb complements, such as *(manger) des tapas* ('eat tapas'), *(prendre) le train* ('take the train'), and *(lire) des livres* ('read books'). By providing untensed verbs to participants, there is greater control of the situation types and viewpoints learners use. Figure 3 is an extract from *les soeurs*.

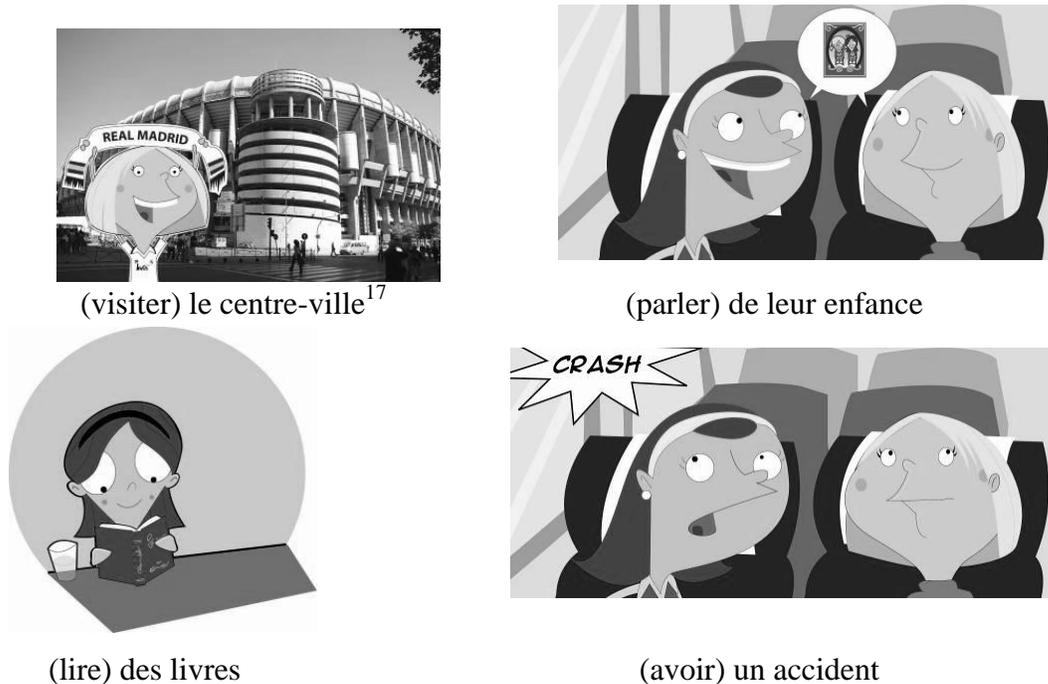


Figure 3: Extracts from *les sœurs*

All participants use the same verb tokens with the same situation types, as provided in the story. However, participants can add other information as they wish. As stated in the

¹⁷ See Table 4.10 for English translations

study's research questions, how learners mark viewpoint and the role of semantic prototypes in the L2 development of viewpoint aspect is a focus of this study. *Les soeurs* addresses both of these criteria. Firstly, it allows learners to express viewpoint by whichever means they select. As all learners will perform this task, it allows comparison across L1 background and proficiency level. Secondly, the stimulus material specifically targets prototypicality and non-prototypicality in terms of semantic complexity (as discussed in Chapters 2 and 3). In this respect, *les soeurs* contrasts with stimulus material like *Modern Times*, which has been criticised for not allowing exploration of non-prototypicality, but instead favouring prototypicality (Bardovi-Harlig, 2000). Therefore, *les soeurs* was selected for this study because it was specifically designed to clearly sequence events and elicit prototypical and non-prototypical combinations of viewpoint and situation type (Arche, Domínguez and Myles, 2010; Domínguez, Arche and Myles, 2010).

4.7.5 Picture narrative task 2: Natalie et Albert

Natalie et Albert is a picture narrative based on a day in the life of a girl (Natalie) and her pet cat (Albert) (see Appendix D). Adapted from the picture story *Missing* by Jonathan Langley ©Francis Lincoln 2000, it is used with permission from the SPLLOC 2 research team (*Nati y Pancho*) and the publisher, Taylor Francis¹⁸. *Natalie et Albert* is a French translated version from the Spanish *Nati y Pancho*. The goal of this task is for participants to narrate a story in the past with viewpoint shifts. *Natalie et Albert* contains 37 images. The story's plot is as follows:

¹⁸ Permission from Taylor Francis to print images from 'Missing' by Jonathan Langley was granted on 14/03/2011.

Page	Narrative plot
1	Each morning Natalie used play with her dolls, paint pictures, and make paper houses. She used go to the park and play on her bike with her friends.
2	Each morning Albert used to awake from his sleep and go outside. He used to climb the trees, chase butterflies and sit in the sun.
3	At the end of the day, Natalie and Albert used to meet by the tree and walk home together.
4	But, one day, Albert went outside and chased a bird, and then he saw a dog. The dog scared Albert and he ran away.
5	Natalie waited for Albert at the tree like she always did but he did not appear this time. So she went to look for him.
6	She looked in his basket, behind the sofa, up the tree, and even asked a frog.
7	Natalie could not find Albert. She was sad. So she left a trail of his snacks around the house.
8	Albert went to the tree to wait for Natalie but she did not appear. He thought she had left home.
9	Albert walked home in the rain and arrived at the house. He saw a trail of food and followed it to his basket.
10	In his basket Albert found Natalie asleep. Natalie and Albert were once again reunited.

As the plot indicates, *Natalie et Albert* uses and contrasts perfective and imperfective viewpoints at different points in the story. The storyline focuses on contrasting viewpoints by creating a narrative shift. When participants begin the story they describe the daily routines of Natalie and Albert. Narrations of habituality require imperfective aspect (i.e. the IMP). There is then a narrative shift when there is the description of what happens on one particular day (i.e. a one-time event). This shift requires perfective viewpoint (i.e. the PC). This task contains a narrative shift from imperfective to perfective viewpoint, whereas *les soeurs* contains two narrative shifts: from perfective into imperfective and then from imperfective into perfective. Not only are there viewpoint shifts, but different viewpoints are combined with different situation types. Table 4.11 shows the different viewpoint-situation type combinations in the task.

	Perfective	Imperfective
Stative	(être) effrayé 'be scared'	(être) heureux 'be happy'
	(manquer) 'miss'	
	(être) heureux 'be happy'	
Activity	(chercher) dans la maison	(lire) aux poupées 'read to dolls/toys'
		(peindre) des dessins 'paint pictures'
		(construire) des maisons 'build houses'
Accomplishments	(chasser) un oiseau 'chase a bird'	(aller) au parc 'go to the park'
	(s'évader) 'escape'	
	(grimper) un arbre 'climb a tree'	
Achievements	(sortir) de la maison 'leave the house'	(se lever) 'get up'
	(retourner) à la maison 'go back home'	(sortir) de la maison 'leave the house'
		(retourner) à la maison 'go back home'

Table 4.11: Viewpoint and situation types in *Natalie et Albert*

Table 4.11 shows that telic and atelic situation types are used with both perfective and imperfective viewpoint types. These viewpoint-situation type combinations allow for investigation of semantically prototypical (e.g. perfective and telic) and non-prototypical pairings (e.g. perfective and atelic), like in *les soeurs*. Furthermore, the story contains a number of set expressions to be used when narrating the story, such as: *chaque matin*, *la même routine* ('each morning, the same routine') and *mais, un jour....* ('but, one day...'). These expressions not only help guide and progress the narrative, but they also encourage learners to follow viewpoint shifts. *Natalie et Albert* contrasts with *les soeurs* by not

providing participants with verbs to use. Therefore, learners have a certain degree of freedom in this task to choose their own situation types. However, situation types are still based on the pictures. Figure 4 is an extract from *Natalie et Albert* (reproduced with permission from Taylor Francis©).

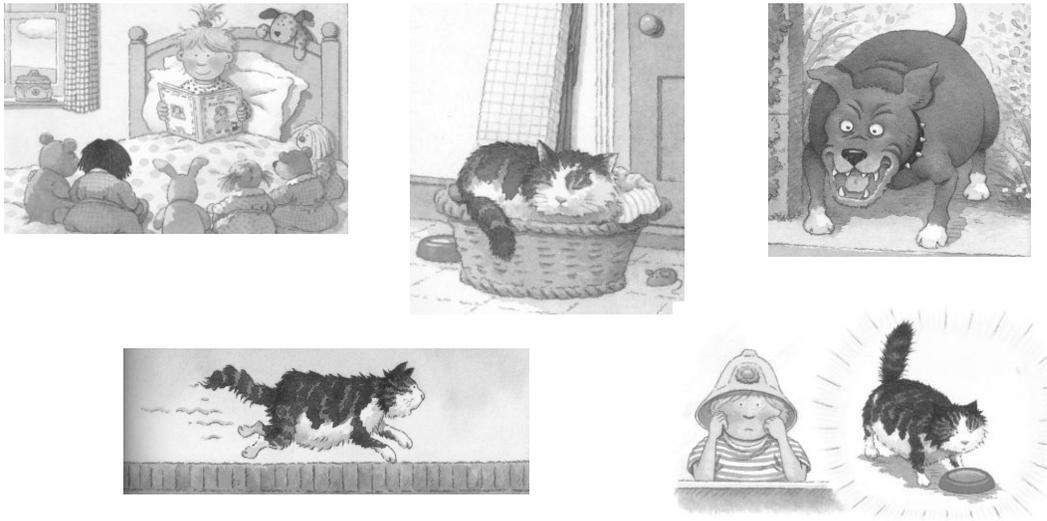


Figure 4: Extracts from *Natalie et Albert*

A point of difference between the narratives task lies in the amount of information provided to participants: in *les soeurs* untensed verbs (and therefore situation types) are provided, but in *Natalie et Albert* they are not. As stated in the study's research questions, how learners mark viewpoint and the role of semantic prototypes in the L2 development of viewpoint is a focus of this study. *Natalie et Albert* addresses both of these criteria. Firstly, it allows learners to express viewpoint aspect. As all learners will perform this task, comparison of L1 background and proficiency levels is straightforward. Secondly, the selection of this stimulus material allows for prototypicality and non-prototypicality to be expressed. It provides participants with more freedom of expression than in *les soeurs*. Therefore, *Natalie et Albert* is used in this study because it not only allows learners to mark viewpoint with greater freedom by not providing them with verbs etc., but it also allows for further investigation of prototypical and non-prototypical pairings of viewpoint and situation type. This allows comparison with *les soeurs* in order to test whether learners avoid non-prototypes when given the choice between the two.

4.7.6 *Sentence Interpretation task*

The *Sentence Interpretation task* is an interpretation task based on the meaning implications of sentences (see Appendix E). Created by the SPLLOC 2 research team (Domínguez *et al.*, 2009), the *Sentence Interpretation task* is based on the SPLLOC 2 *Semantic Interpretation task* (Domínguez, Arche and Myles, 2011). The task used in the present study differs from the SPLLOC 2 one in at least four ways. Firstly, the test sentences are written in French. Secondly, a different judgement scale was used in the present study. Thirdly, due to language differences between French and Spanish and different conceptual views on the distinctions between viewpoint aspect and situation aspect, continuousness is not investigated in the present study¹⁹. Lastly, this task was computer administered by SPLLOC 2, whereas it was completed with pen and paper in the present study.

The *Sentence Interpretation task* contains 31 test items and is used to explore learners' interpretations of sentences in terms of viewpoint aspect. Participants are presented with a test item containing (a) a written context in the participant's L1 and (b) two French sentences to rate. Participants are required to rate the French sentences in terms of how appropriately they describe the context. One sentence is perfective and one is imperfective. In each test item, only one sentence is appropriate. Eleven filler items are also included in the task. As test items contrast viewpoint (PC vs. IMP), filler items also present semantic contrasts: present time reference versus past time reference. Each sentence is rated from *inappropriate* to *appropriate*, using a three-point Likert scale: -1 (inappropriate) 0 (don't know) +1 (appropriate). In the SPLLOC 2 *Semantic Interpretation Task*, a five-point Likert scale was used: -2 -1 0 +1 +2 (Domínguez, Arche and Myles, 2011). Slabakova (2008) and White (2003) criticize the five-point Likert scale in interpretation/judgement tasks because, as they argue, it is not instinctively clear how -2 is different from -1 and 'it is not clear whether the zero is treated as a value between -1 and +1 and thus a rating of intermediate appropriateness, or whether the learners use it to

¹⁹ For Domínguez, Arche and Myles (2011), continuousness is a viewpoint type, however in their discussion they claim that it only occurs with statives. As continuousness is only considered to occur with statives, it seems reasonable to suggest that continuousness is a situation type and not a viewpoint type, as also advocated by Comrie (1976)

mean “I don’t know” (Slabakova, 2008:126). In a pilot test, True and False were used instead of a Likert scale, following Slabakova (2003, 2006). However, learners revealed that they were selecting True and False by deduction. For example, “I know that 1 is false so therefore 2 must be true”. This is arguably so because of the absolute True and False labels. Therefore, to avoid learners selecting a sentence on the basis of deduction, it was decided to use a three-point scale with labels, so that 0 corresponded to ‘I don’t know’, -1 corresponded to ‘inappropriate’ and +1 to ‘appropriate’. This addresses criticisms that it is unclear what the difference between -1 and -2 is, and also zero is specifically labelled as ‘I don’t know’. Therefore, when zero is selected, it is known both to the participant and the researcher that it stands for ‘I don’t know’ and not ‘a rating of intermediate appropriateness’ (Slabakova, 2008:126) between -1 and +1.

In the task, participants are requested to make only one judgement per test sentence. The scale is repeated at the top of each page of the task booklet. The 0 (don’t know) option is reserved for participants unable to choose either inappropriate or appropriate. Participants were asked only to use the 0 option as an absolute final resort. Figure 5 is an extract from the *Sentence Interpretation task*:

<i>When Mike was a child he used to enjoy going for picnics with his grandparents.</i>			
	Mike a mangé dans le parc		
	-1	0	+1
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Mike mangeait dans le parc		
	-1	0	+1
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 5: Extract from the *Sentence Interpretation task*

The *Sentence Interpretation task* uses both perfective and imperfective viewpoints across situation types. Test sentences for the task are selected by combining different viewpoint types (perfective and imperfective) with different situation types (telic and atelic). Therefore, both prototypical (e.g. perfective and telic, *read the book*) and non-prototypical (e.g. imperfective and telic, *sell a guitar*) combinations are investigated.

Table 4.8 shows the viewpoint and situation types used in the *Sentence Interpretation task*.

Viewpoint type	Situation type	
	Telic	Atelic
Perfective	(lire) le livre 'read the book'	(manger) dans le parc 'eat in the park'
	(construire) une villa 'build a villa'	(sortir) avec son amie 'go out with his girlfriend'
	(entendre) un bruit 'hear a noise'	(avoir) besoin d'aide 'need help'
	(arriver) en classe 'arrive in class'	(être) malade 'be ill'
Imperfective (progressive)	(vendre) une guitare 'see a guitar'	(courir) 'run'
	(commencer) à 7h 'start at 7 o'clock'	(lire) 'read'
	(gravir) la montagne 'climb the mountain'	(préparer) l'examen 'prepare an exam'
		(jouer) 'play'
Imperfective (habitual)		(sortir) avec son amie 'go out with his girlfriend'
	(arriver) en classe 'arrive in class'	(manger) dans le parc 'eat in the park'
	(aller) chez Anna 'go to Anna's house'	(entendre) le bruit 'hear noise'
		(avoir) besoin d'aide 'need help'
		(construire) des hôpitaux 'build hospitals'

Table 4.12: Viewpoint and situation types in the *Sentence Interpretation task*

Table 4.8 shows a breakdown of the different viewpoint and situation types used in the task. There are 15 different verbs. Seven verbs²⁰ are used with both perfective and imperfective viewpoints. In these cases, the verb semantics remain constant (e.g. (manger) dans le parc), but the context changes. In one case the PC is correct and in the second case the IMP is correct.

The *Sentence Interpretation task*'s specific aim is to test the interpretations learners attribute to sentences. It complements the production task by investigating the specific interpretations of viewpoint forms. For example, if learners use the PC in obligatory imperfective contexts in production, do they also interpret the PC as conveying imperfectivity?

4.8 Data coding and analysis

4.8.1 Coding of spoken data

Spoken data from the narrative tasks (*les sœurs* and *Natalie et Albert*) are digitally audio-recorded for orthographic transcription, using CHAT from the CHILDES system (Child Language Data Exchange System; see: <http://chilDES.psy.cmu.edu>). The CHILDES system is made up of three integrated components:

- Talkbank: a large database of speech recordings and transcriptions
- CHAT (Codes for the Human Analysis of Transcripts): the transcription procedures developed for the analysis programmes.
- CLAN (Computerized Language Analysis): the analysis programmes designed to recognize the tagging conventions of CHAT. There are approximately 40 computer commands.

CHAT is used for the purposes of transcription, whilst CLAN is used for analysis. CHAT comes with its own transcription conventions and principles to 'maximize systematicity

²⁰ These are: *arriver* ('arrive'), *avoir besoin* ('need'), *construire* ('build'), *entendre* ('hear'), *lire* ('read'), *manger* ('eat'), and *sortir* ('go out').

and minimize inconsistency' (MacWhinney, 2011:35). This is not only important for other researchers to be able to make sense of the data, but also because CLAN runs analyses on CHAT following a particular set of transcription specifications. If the transcription does not follow these specifications, the data cannot be correctly analysed. For these reasons, the conventions and principles of CHAT are carefully laid out. However, a certain degree of flexibility is contained within these conventions and principles. For example, Rule, Marsden, Myles and Mitchell (2003:674) report English-speaking learners of French and their use of 'approximate' forms of definite and indefinite articles, as producing sounds between 'le' and 'la' and between 'un' et 'une'. Cases such as this raise problems for researchers when transcribing IL forms. CHAT's flexibility, however, allows for 'approximate forms' to be coded and analysed as neologisms, which are also assigned a separate grammatical analysis. In learner French, other problems in transcription are often reported (e.g. Kihlstedt, 1998; Rule, Marsden, Myles and Mitchell, 2003; Marsden, Myles, Rule and Mitchell, 2003). Marsden, Myles, Rule and Mitchell (2003:107) note the difficulties associated with transcribing tense in French: 'regular present tense *-er* verbs have five orthographic but just three phonetic realizations'. Therefore, transcribing /e/ verb endings is problematic and may correspond to any of *aller*, *allé*, and *allez*. Codings such as these described for articles and tense are not part of the CHILDES system and were designed by the FLLOC research team, as explained on the project website (see www.flloc.soton.ac.uk). The problem of tense transcription is also relevant to this study, particularly in distinguishing spoken forms which are not easily distinguishable. The problem arises with *-er* verbs, where a noticeable difference may not always be detectable between them: *allait* (IMP 'used to go'), *allé* (past participle 'gone') and *aller* (infinitive 'go'), all pronounced [ale]. Whereas for other types of verbs, such as *-ir* verbs and irregular verbs in general, the IMP ending is phonetically and orthographically distinct from the infinitive: for example, *finissait* (IMP 'was finishing.used to finish') pronounced [finisɛ], *fini* (past participle 'finished') pronounced [fini], and *finir* (infinitive 'finish') pronounced [finiR]. For treating ambiguous cases like those mentioned for *aller* ('go'), the ESF project used the coding –ER: for example, [rɔ̃gaRde] was transcribed as regardER ('watch'). Labeau (2009a) also used this convention. But due to capitalization and a need for orthographic transcription

for CHILDES to perform analyses, this convention was not adopted because CHILDES does not support it. Therefore, following FLLOC, it was decided that a general rule for ambiguous forms would not be adopted. Rather, each case would be considered individually. Firstly, the learners in this study are advanced learners; they are not beginners. As learners have received over seven years of instruction in French, it is assumed that learners are producing target forms unless there is good reason to assume they are not. Therefore, tensed and untensed verbs that differ phonetically between the IMP, the past participle and the infinitive were compared; for example *lire* ('read') differs phonetically between the IMP [lizɛ], the past participle [ly], and the infinitive [liʀ]. In the data, there are no occurrences of untensed verbs which differ phonetically between the IMP, the past participle, and the infinitive. Therefore, it is assumed that even though regular *-er* verbs tensed for the IMP may sound like the past participle and the infinitive, they were in fact not. It is assumed that *elle* [ale] is the tensed *elle allait* ('she used to go') and not the untensed *elle allé* ('she gone') or *elle aller* ('she go'). Any ambiguous cases that arose were furthermore verified by two different French NSs.

4.8.2 Coding of interpretation data

Interpretation data are from the *Sentence Interpretation task*. Participants score each French sentence in terms of its appropriateness in describing the context provided. This is done on a scale of: -1 (inappropriate) 0 (don't know) +1 (appropriate). Each test item contains two test sentences, of which one is appropriate and one inappropriate. Therefore, in each test item two scores are expected²¹, such as -1 and +1 or +1 and +1. This is because in each test item there are two sentences to be rated. Task results are coded per test item. This type of coding shows the forms (PC or IMP) learners select for describing different viewpoint contexts. This coding of the results not only shows what viewpoint meanings learners attribute to the PC and the IMP, but also viewpoint meanings that are not attributed to them.

²¹ As neither the 0 (don't know) option nor the -1 and -1 option were selected by any participants, these outcomes have not been factored into the coding or analysis.

4.8.3 Data analysis

Interpretation and production data are analysed in order to answer the research questions set out in section 4.3. Research question (A) investigates how learners express viewpoint aspect. Production data will indicate more clearly than interpretation data how learners do this, because in the spoken narratives learners narrate the stories in their own words, using their own means of expression, although in *les soeurs* participants are provided with untensed verbs. In the *Sentence Interpretation task*, however, learners make judgements on specific sets of sentences. Firstly, qualitative analyses from the spoken narratives collate all instances of viewpoint marking (e.g. lexical, such as adverbs, and morphosyntactic, such as tense). These instances will then be quantitatively tabulated. Then, a two-tier analysis will be performed: (a) type of marking (i.e. lexical vs. morphosyntactic) and (b) type of viewpoint (i.e. perfective or imperfective). This results in data showing the types of marking used to convey perfective and imperfective viewpoint. The production data allow the forms learners use in obligatory perfective and imperfective contexts to be quantified. The interpretation data is paired with these results to show the viewpoint functions learners attribute to these forms.

To assess the influence of semantic prototypes on L2 development, data tabulated for viewpoint marking will then be used for further analysis. For this, where tense is used to convey viewpoint, then these instances will be analysed in terms of situation type. Therefore, analyses will be generated showing: (1) the tenses used for perfective and imperfective viewpoint and (2) of these proportions, which are used with telic and atelic situation types. This analysis will show if a particular tense is used with a particular situation type. This analysis is performed on all data (production and interpretation).

To assess L1 influence, tabulations on viewpoint marking will be systematically compared. Analysis will begin by comparing learners at the same proficiency but from different L1 backgrounds (e.g. English low vs. German low group learners). Differences and similarities in how they mark and interpret viewpoint forms will be highlighted. Analysis will then include proficiency level (e.g. low group learners vs. advanced group learners). Differences and similarities in how they mark and interpret viewpoint forms

will be highlighted. Up to this point, analysis will have been descriptive. Statistical procedures will then be used to test these differences.

The use of statistics in SLA research is now commonplace. These range from simple calculations of the mean and the range on a particular sample (descriptive statistics) to more complex procedures calculating significant differences generalizable to the whole population (inferential statistics). Computerized data analysis is usually performed with SPSS (Statistical Package for the Social Sciences). A priority of inferential statistics is in testing ‘statistical significance’. This indicates whether a result is generalizable to the whole population. If a result is non-significant then its occurrence may be down to chance. Inferential statistics takes into account the magnitude of the result and the size of the sample when testing statistical significance. Statistical significance itself is measured by a probability coefficient (p), which ranges from 0 to +1. Social sciences research typically considers a significant result as one of: $p < .05$ (Dörnyei, 2007). Other typical levels of significance are: $p < .01$ and $p < .001$.

Statistical tests of normality of distribution were carried out to test for the presence of outliers and non-normal distribution. Shapiro Wilks tests showed that all groups were normally distributed. For this reason, parametric tests have been conducted throughout.

Two different inferential statistical procedures will be used to investigate different types of relationship. T-tests are computed to compare two independent groups, and for more than two groups one-way analysis of variance (ANOVA) is required. The main types of t-test are independent-samples and paired-samples t-tests. Paired-samples t-tests are used in this study. A paired-samples t-test is used to compare two sets of variables within the same group, such as comparison of use between the PC and the IMP by English low group learners. ANOVA is used to compare more than two groups, such as use of the PC in perfective contexts between all learner groups. It compares ‘the significance of the differences in the means’ between groups (Dörnyei, 2007:218). So, for example, with three groups (A, B, and C) ANOVA would compare: A-B, A-C, B-C. However, as ANOVA computes multiple comparisons it is not immediately clear where the significant

differences lie, so to find this out a post hoc test is required, typically LSD, S-N-K, and Tukey (Dörnyei, 2007). Post hoc tests indicate the contrasts that are significant (e.g. between A-C).

The research questions in this study centre on differences in L1 background (English vs. German), proficiency level (low vs. advanced), and the role of semantic prototypes. Statistical testing is used to investigate correlations and differences in the data for significance. As already noted, social sciences research typically considers a significant result as one of: $p < .05$ (Dörnyei, 2007). Therefore, a result will be considered statistically significant if $p < .05$. To compare between different levels of significance $p < .001$ will also be used.

To answer research questions (A) – (D), data collected from *les soeurs, Natalie et Albert* and the *Sentence Interpretation task* will be used. Data will be coded following the procedures outlined in sections 4.8.1 and 4.8.2. Data are used for descriptive and inferential statistical analyses. Firstly, raw data is calculated into percentages, which is then tabulated for comparison. Secondly, the raw data is used again for running inferential statistical analyses.

To answer research question (A) on how learners mark viewpoint and (B) on the effect of L1 background, coded spoken and interpretation data will be analysed using paired-samples t-tests in order to compare tense use by the same group of learners. (i.e. PC-IMP, IMP-PRES, and PC-PRES). This test allows different tense selections to be compared to each other and is required to calculate similarities and differences in tense use. Statistical tests will be used alongside raw and percentage figures in order to make sense of the tests. A statistically significant result between the PC and the IMP, for example, will indicate that one of these tenses is used significantly more than the other. A non-significant result indicates no significant difference between tense use. In addition, by using this t-test, differences in tense selection between different L1 groups will be compared. For instance, for English low group learners is there a significant difference between the use of the PC and the IMP in imperfective contexts?

For all group comparisons and to answer research questions (A) – (C), coded spoken and interpretation data will be analysed using ANOVA with Tukey Post Hoc to compare differences between all groups (learners and NSs) for tense selection in general and tense selection across different situation types. ANOVA builds on the t-test results by presenting comparisons across all groups on the same variable(s) to indicate significant correlations and differences between them, in terms of L1 background and proficiency level.

Finally, research question (D) brings together questions (A) – (C) on the implications for L2 development more generally. Paired-samples t-tests as well as ANOVAs will be taken into account to evaluate the L2 development of viewpoint aspect, using t-test results to see how individual groups compare and ANOVAs to see how all groups compare.

4.9 Conclusion

In this chapter, the study's general and specific research questions have been presented, in addition to the hypotheses and predictions. The influences of (1) L1 form-meaning pairings and (2) semantic prototypes on the L2 development of viewpoint aspect are the central focus to this study. For this reason, participants are selected from two different L1 backgrounds. These L1s differ in how they pair viewpoint aspect with forms. There are also L1-L2 differences in the form-meaning pairings for viewpoint aspect. The methodology selected for this study is motivated by its research agenda: principally using methods to elicit viewpoint aspect marking and investigate the effects of semantic prototypes on this marking. Learners are categorised into two significantly different proficiency groups ($p < .001$) following C-test scores to investigate L2 development. Furthermore, this chapter has explained how the data will be coded and analysed. Chapter 5 presents the results collected from this methodology.

Chapter 5. Results

This chapter presents the study's empirical findings. The data are collected from two spoken narrative tasks (*les soeurs* and *Natalie et Albert*) and one *Sentence Interpretation task* with English- and German-speaking learners of French and a control group of French native speakers (NS), as documented in Chapter 4. The spoken narratives elicit viewpoint marking in past time and show how learners mark viewpoint with past time reference. Both narratives elicit perfective and imperfective viewpoint with telic and atelic situation types. The *Sentence Interpretation task* explores the meanings learners attribute to sentences with perfective and imperfective viewpoint. It investigates learners' interpretations of telic and atelic predicates in perfective and imperfective contexts. The results from these tasks are presented according to proficiency level group, starting with low group learners in section 5.1 and moving onto advanced group learners in section 5.2. Results from the spoken narratives are presented first, followed by results from the *Sentence Interpretation task*. Discussion of these results is presented in Chapter 6.

5.1 Low group learners

5.1.1 Spoken narratives

English- and German-speaking low group learners use a range of different tenses in perfective and imperfective contexts. These include: the IMP, the PC and the PRES. German low group learners additionally use the *Passé Simple* (PS). Other forms include the Conditional, the Pluperfect and uninflected verbs. Table 5.1 shows the tenses used in perfective and imperfective contexts in *les soeurs* by low group learners and NS.

	Perfective	Imperfective (habitual)
English Low		
PC	64.3 (146)	35.9 (81)
IMP	13.2 (30)	56.6 (128)
PRES	20.3 (46)	5.3 (12)
Other	2.2 (5)	2.2 (5)
German Low		
PS	4.9 (11)	0 (0)
PC	77.2 (184)	57.1 (128)
IMP	9.8 (22)	35.3 (79)
PRES	6.7 (15)	1.3 (3)
Other	1.4 (3)	6.3 (14)
Control		
PC	100 (78)	0 (0)
IMP	0 (0)	100 (72)
PRES	0 (0)	0 (0)
Other	0 (0)	0 (0)

Table 5.1: Low group learners' use of tense in perfective and imperfective contexts in *les soeurs* in per cent

The most striking difference between learners and NS is the latter's exclusive use of the PC to mark perfectivity and the IMP to mark imperfectivity. In contrast, the learners use a variety of tenses. In perfective contexts, the PC is used more than any other tense. German low group learners also contrast with NS and English low group learners in their use of the PS to mark perfectivity. In imperfective contexts the IMP is most used. Paired-samples t-tests were carried out to compare differences in the selection of the PC, the IMP, and the PRES by English and German low group learners in perfective contexts in *les soeurs*, as shown in Table 5.2 (see Chapter 4 for discussion of statistical testing in SLA and social sciences research).

		M	SD	D	t
English low group				226	15.368**
	PC	.643	.480		
	IMP	.132	.339		
				226	-4.140**
	IMP	.132	.339		
	PRES	.203	.403		
			226	13.340**	
	PC	.643	.480		
	PRES	.203	.403		
German low group				223	24.139**
	PC	.821	.384		
	IMP	.098	.298		
				223	2.682*
	IMP	.098	.298		
	PRES	.067	.251		
			223	26.177**	
	PC	.821	.384		
	PRES	.067	.251		

**p<.001

*p<.05

Table 5.2: Paired-samples t-tests of low group learners' selection of tense in perfective contexts

Table 5.2 shows statistically significant differences in the selection of tense in perfective contexts in *les soeurs* by low group learners. For both groups, the difference between (1) the PC and the IMP and (2) the PC and the PRES in perfective contexts is statistically significant ($p < .001$). The difference between the IMP and the PRES is also significant, but there are differences between groups: the difference is more significant for English low group learners ($p < .001$) than German low group learners ($p < .05$). In imperfective contexts, learners use the PC more than the PRES. Results from Paired-samples t-tests comparing differences in the selection of the PC, the IMP, and the PRES for imperfective viewpoint in *les soeurs* are shown in Table 5.3.

		M	SD	D	t
English low group				225	-7.686**
	PC	.358	.481		
	IMP	.566	.497		
				225	15.404**
	IMP	.566	.497		
	PRES	.053	.225		
			225	9.944**	
	PC	.368	.481		
	PRES	.053	.225		
German low group				223	7.902**
	PC	.571	.496		
	IMP	.353	.479		
				223	10.701**
	IMP	.353	.479		
	PRES	.013	.115		
			223	16.780**	
	PC	.571	.496		
	PRES	.013	.115		

**p<.001

Table 5.3: Paired-samples t-tests of low group learners' selection of tense in imperfective (habitual) contexts

Table 5.3 shows that all low group learners display statistically significant differences in the selection of tense in imperfective contexts in *les soeurs*. For both groups, the differences between tenses (PC-IMP, IMP, PRES and PC-PRES) is statistically significant ($p < .001$).

Results from *les soeurs* show contrasts between English and German low group learners. Firstly, only German low group learners use the PS. Secondly, English learners use the PRES three times more frequently than German learners to mark perfective viewpoint. The PRES is used little by German learners for either viewpoint. Thirdly, both English and German low group learners use the PC and the IMP to mark imperfective viewpoint, but with differences. English learners show preference for the IMP (56.6%) above the PC (35.9%), whilst German learners show preference for the PC (57.1%) above the IMP (35.3%). Both English and German learners show preference for the PC to mark perfective viewpoint. All learners show statistically significant differences between selections of the PC, the IMP, and the PRES in perfective contexts and imperfectivity.

These results will now be compared to those from the *Natalie et Albert* spoken narrative task. Table 5.4 shows the tenses used in perfective and imperfective contexts in *Natalie et Albert* by low group learners and NS.

	Perfective	Imperfective (habitual)
English Low		
PC	77 (224)	27.3 (44)
IMP	20.3 (59)	44.1 (71)
PRES	2.4 (7)	26.1 (42)
Other	0.3 (1)	2.5 (4)
German Low		
PS	1.8 (6)	0 (0)
PC	74.8 (252)	32.6 (62)
IMP	15.8 (52)	35.3 (67)
PRES	7 (23)	31.6 (60)
Other	0.6 (2)	0.5 (1)
Control		
PC	100 (173)	0 (0)
IMP	0 (0)	100 (79)
PRES	0 (0)	0 (0)
Other	0 (0)	0 (0)

Table 5.4: Low group learners' use of tense to mark viewpoint in *Natalie et Albert* in per cent

As in *les soeurs*, NS exclusively use the PC in perfective contexts and the IMP in imperfective contexts, whilst low group learners do not. Learners continue to show preference for the PC in perfective contexts. For English low group learners, preference for the PC in perfective contexts is stronger in *Natalie et Albert* (77%) than in *les soeurs* (64.3%). For German low group learners, however, use of the PC in perfective contexts is consistent (74.8% in *Natalie et Albert* and 77.2% in *les soeurs*). Paired-samples t-tests were carried out to compare differences in the selection of the PC, the IMP, and the PRES by low group learners for perfective viewpoint in *Natalie et Albert*, as shown in Table 5.5.

		M	SD	D	t
English low group				290	19.487**
	PC	.769	.422		
	IMP	.203	.403		
				290	7.943**
	IMP	.203	.403		
	PRES	.024	.153		
			290	-29.162**	
	PC	.769	.422		
	PRES	.024	.153		
German low group				328	22.551**
	PC	.766	.424		
	IMP	.158	.365		
				328	5.631**
	IMP	.158	.365		
	PRES	.069	.255		
			328	-27.407**	
	PC	.766	.365		
	PRES	.069	.255		

**p<.001

Table 5.5: Paired-samples t-tests of low group learners' selection of tense in perfective contexts

Table 5.5 shows statistically significant differences in the selection of tense in perfective contexts by low groups learners in *Natalie et Albert*. In imperfective contexts, Table 5.4 shows that for both groups no single tense is selected above 45%. For German low group learners, the PRES is little used in *les soeurs* but it is used over 30% of the time in *Natalie et Albert*. Furthermore, the PC is used proportionally more than the IMP in *les soeurs* in imperfective contexts. However, in *Natalie et Albert*, these two tenses are used at very similar levels. English and German low group learners contrast in the tenses they select in viewpoint contexts. In perfective contexts, German low group learners show a consistently strong preference for the PC, contrasting with English low group learners who show greater variation in perfective contexts. In imperfective contexts, German low group learners show preference for the PC in *les soeurs* and no clear tense preference in *Natalie et Albert*, whilst for English low group learners the IMP is consistently most selected in imperfective contexts. Table 5.6 shows results from Paired-samples t-tests comparing differences in the selection of the PC, the IMP, and the PRES by low group learners in imperfective contexts in *Natalie et Albert*.

		M	SD	D	t
English low group				160	-5.678**
	PC	.273	.447		
	IMP	.441	.498		
				160	5.929**
	IMP	.441	.498		
	PRES	.261	.440		
German low group				160	1.419
	PC	.273	.447		
	PRES	.261	.440		
				189	-2.260*
	PC	.326	.470		
	IMP	.353	.479		
				189	2.689*
	IMP	.353	.479		
	PRES	.316	.466		
				189	1.418
	PC	.326	.470		
	PRES	.316	.466		

**p<.001

Table 5.6: Paired-samples t-tests of low group learners' selection of tense in imperfective (habitual) contexts

Table 5.6 shows statistically significant differences in the selection of tense in imperfective contexts in *Natalie et Albert* by low group learners. For both groups, differences between (1) the PC and the IMP and (2) the PC and the PRES in imperfective contexts is statistically significant, although to different extents: differences between these tenses is more significant for English low group learners ($p < .001$) than German low group learners ($p < .05$). Furthermore, both groups fail to show significant differences between selection of the PRES and the PC in imperfective contexts.

These results indicate that whilst the PC is consistently used in both spoken narrative tasks in perfective contexts in line with NSs, the IMP is not consistently used for imperfective viewpoint. Rather, imperfective viewpoint appears to be marked in both spoken narratives by the IMP, the PC and the PRES. All learners show significant differences between the uses of the PC, the IMP, and the PRES for perfective and imperfective viewpoint. As found for English-speaking learners, for German low group learners the difference between the PC and the PRES in *Natalie et Albert* is not significant, whereas it is significant in *les soeurs*.

What these results show is *how* learners mark viewpoint. The next step is to analyse these tense selections further. Learners are not using one tense in perfective contexts and a different one in imperfective contexts like NSs. Instead, they use a variety of tenses. The AH claims that the L2 development of viewpoint is influenced by universal semantic prototypes (cf. Chapter 4). It suggests that initially the PC is used with telic situation types and that the IMP with atelic situation types. An analysis of tense selection according to situation type will show if learners cluster different tense selections around particular situation types, as the AH predicts. Table 5.7 presents an analysis of the tenses used by low group learners in perfective and imperfective contexts according to situation type in *les soeurs*.

	Perfective		Imperfective (habitual)	
	Telic	Atelic	Telic	Atelic
English Low				
PC	67.3 (37)	63.4 (109)	35.1 (40)	36.6 (41)
IMP	12.6 (7)	13.4 (23)	53.5 (61)	59.8 (67)
PRES	20 (11)	20.3 (35)	8.8 (10)	1.8 (2)
Other	0 (0)	2.9 (5)	2.6 (3)	1.8 (2)
German Low				
PS	5.6 (3)	4.7 (8)	0 (0)	0 (0)
PC	85.1 (46)	74.7 (127)	61.9 (70)	52.3 (58)
IMP	3.7 (2)	11.8 (20)	30.9 (35)	39.6 (44)
PRES	5.6 (3)	7 (12)	0.9 (1)	1.8 (2)
Other	0 (0)	1.8 (3)	6.2 (7)	6.3 (7)
Control				
PC	100 (18)	100 (60)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (30)	100 (42)
PRES	0 (0)	0 (0)	0 (0)	0 (0)
Other	0 (0)	0 (0)	0 (0)	0 (0)

Table 5.7: Low group learners' tense selection according to situation type in *les soeurs* in per cent

Table 5.7 compares the types of predicates low group learners and NSs use with tenses in perfective and imperfective contexts in *les soeurs*. It shows that NSs use the PC in perfective contexts and the IMP in imperfective contexts, irrespective of a sentence's situation type. In other words, NSs' use of tense does not depend on situation type. If tense selection were based on situation type, then Table 5.7 would show congruency between viewpoint and situation type, such as use of the PC clusters around telic situation

types. Comparing these results with those from *Natalie et Albert* will help create a fuller picture. Table 5.8 shows the tenses used in perfective and imperfective contexts according to situation type in *Natalie et Albert*.

	Perfective		Imperfective (habitual)	
	Telic	Atelic	Telic	Atelic
English Low				
PC	83.9 (161)	71.9 (95)	24.6 (14)	26 (27)
IMP	13.5 (26)	25.8 (34)	45.6 (26)	42.3 (44)
PRES	2.1 (4)	2.3 (3)	26.3 (15)	29.8 (31)
Other	0.5 (1)	0	3.5 (2)	1.9 (2)
German Low				
PS	1.9 (4)	1.7 (2)	0 (0)	0 (0)
PC	82.3 (177)	60.9 (70)	34.7 (26)	31.3 (36)
IMP	8.8 (19)	28.7 (33)	37.3 (28)	33.9 (39)
PRES	6.5 (14)	7.8 (9)	28 (21)	33.9 (39)
Other	0.5 (1)	0.9 (1)	0 (0)	0.9 (1)
Control				
PC	100 (115)	100 (58)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (19)	100 (60)
PRES	0 (0)	0 (0)	0 (0)	0 (0)
Other	0 (0)	0 (0)	0 (0)	0 (0)

Table 5.8: Tense selection according to situation type in *Natalie et Albert* in per cent

Table 5.8 compares the use of telic and atelic predicates with tenses in perfective and imperfective contexts in *Natalie et Albert*. It shows that learners use the IMP, the PC and the PRES with both telic and atelic situation types. It shows that NSs use the PC in perfective contexts and the IMP in imperfective contexts, irrespective of a sentence's situation type. In other words, NSs' use of tense does not depend on situation type. Comparison of participants' use of tense with different situation types is compared with statistical testing in section 5.2.

Overall, the spoken narrative results have shown that more than any other tense English and German low group learners use the PC in perfective contexts. In imperfective contexts, however, learners fail to show a tense preference and instead seem to use a mix of the IMP, the PC, and the PRES. With respect to situation type, use of the IMP and the PC in perfective contexts appears to be subject to a prototypical effect for both groups.

However, this appears not to be the case in imperfective contexts. These claims will be statistically verified in section 5.2.

5.1.2 Sentence interpretation

The *Sentence Interpretation task* explores the viewpoint interpretations learners assign to sentences. For each test item, there is a context (written in the learner's L1) and two test sentences (written in French). One test sentence is perfective (PC) and one is imperfective (IMP). Learners rate each test sentence in terms of how appropriately it describes the context on a scale of -1 (inappropriate) 0 (don't know) +1 (appropriate). Figure 6 is an extract from the task:

<p><i>When Mike was a child he used to enjoy going for picnics with his grandparents</i></p> <p>Mike a mangé dans le parc</p> <p>-1 0 +1</p> <p>Mike mangeait dans le parc</p> <p>-1 0 +1</p>

Figure 6: Extract from the *Sentence Interpretation task*

If learners consider that neither of the sentences appropriately describes the context, then both sentences are rated -1. If both sentences are considered appropriate then both sentences are rated +1. Participants only make one judgement per sentence. Learners in the low group only ever rated sentences -1 or +1. Therefore, there were no instances of 0 (don't know). Table 5.9 shows the tenses low group learners and NS selected in perfective and imperfective contexts in the *Sentence Interpretation task*. It also shows the rejection rates of these same tenses.

	Perfective	Imperfective	
		Habitual	Progressive
English Low			
PC	63.2 (96)	31.6 (36)	21.7 (33)
IMP	36.8 (56)	68.4 (78)	78.3 (119)
German Low			
PC	71.7 (109)	25.4 (29)	29.6 (45)
IMP	28.3 (43)	74.6 (85)	70.4 (107)
Control			
PC	100 (48)	0 (0)	0 (0)
IMP	0 (0)	100 (36)	100 (48)

Table 5.9: Tense selection in the *Sentence Interpretation task* in per cent

Table 5.9 shows that NSs always select the PC in perfective contexts and the IMP in imperfective contexts. Indeed low group learners show these same trends, although to a lesser extent. The *Sentence Interpretation task* results show that in perfective contexts the PC is rejected at 36.8% by English low group learners and 28.3% by German low group learners. As for imperfective contexts, English low group learners reject the IMP more in habitual (31.6%) than in progressive (21.7%) contexts. For German low group learners, rejection of the IMP is similar in habitual (25.4%) and progressive (29.6%) contexts. These rejection rates show that low group learners reject the PC in perfective contexts to similar extents. However, in imperfective contexts, English low group learners reject the IMP less in progressive contexts, whilst for German low group learners the IMP is rejected in similar proportions in both habitual and progressive contexts. Paired-samples t-tests were carried out to compare these tense selections (rejections and acceptances) between the PC and the IMP in perfective and imperfective contexts, as shown in Tables 5.10 for perfectivity and Tables 5.11 and 5.12 for imperfectivity.

		M	SD	d	t
English low group	PC	.632	.484	151	7.344**
	IMP	.368	.484		
German low group	PC	.717	.452	151	10.765**
	IMP	.283	.452		

**p<.001

Table 5.10: Paired-samples t-tests of low group learners' selection of tense in perfective contexts

		M	SD	d	t
English low group	PC	.316	.466	113	-8.119**
	IMP	.684	.466		
German low group	PC	.254	.437	113	-10.445**
	IMP	.746	.437		

**p<.001

Table 5.11: Paired-samples t-tests of low group learners' selection of tense in imperfective (habitual) contexts

		M	SD	d	t
English low group	PC	.217	.414	151	-14.027**
	IMP	.783	.414		
German low group	PC	.296	.458	151	-10.199**
	IMP	.704	.458		

**p<.001

Table 5.12: Paired-samples t-tests of low group learners' selection of tense in imperfective (progressive) contexts

Tables 5.10 – 5.12 show that both low groups selected the PC significantly more frequently in perfective contexts than the IMP ($p < .001$) and the IMP significantly more in imperfective contexts ($p < .001$). These findings are now compared to tense selection analyses based on situation type. Table 5.13 shows low group learners' and NSs' selection of tense according to situation type.

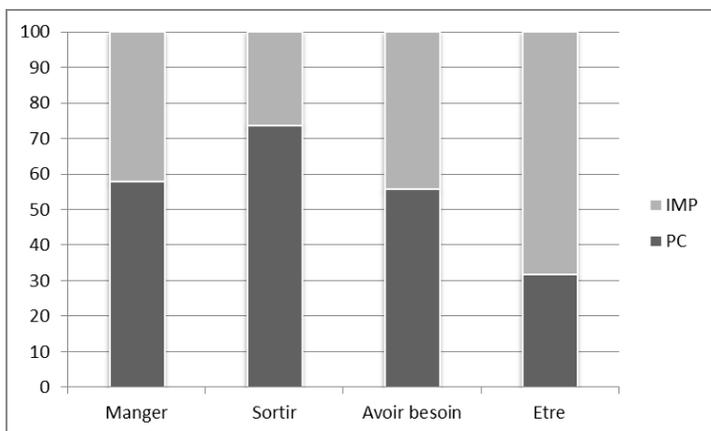
	Perfective		Imperfective			
	Telic	Atelic	Habitual Telic	Atelic	Progressive Telic	Atelic
English Low						
PC	80.3 (61)	46.1 (35)	10.5 (4)	42.1 (32)	33.3 (19)	14.7 (14)
IMP	19.7 (15)	53.9 (41)	89.5 (34)	57.9 (44)	66.7 (38)	85.3 (81)
German Low						
PC	89.5 (68)	53.9 (41)	15.8 (6)	30.3 (23)	38.6 (22)	24.2 (23)
IMP	10.5 (8)	46.1 (35)	84.2 (32)	69.7 (53)	61.4 (35)	75.8 (72)
Control						
PC	100 (24)	100 (24)	0 (0)	0 (0)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (12)	100 (24)	100 (18)	100 (30)

Table 5.13: Tense selection according to situation type in the *Sentence Interpretation task* in per cent

Table 5.13 shows that as in the spoken narratives, NSs select the PC and the IMP independently of a sentence's situation type. For learners, the results show prototypical influence. In perfective contexts, both low groups show greater use of the PC with telic than atelic situation types and greater use of the IMP with atelic than telic situation types. Therefore, both low groups appear to show a significant prototypical effect in perfective contexts. And for imperfectivity, prototypical affects appear minimal, consistent with findings in imperfective contexts from *les soeurs* and *Natalie et Albert*. Furthermore, the imperfective context results contrast with perfectivity. These trends will be statistically verified in section 5.2

In the *Sentence Interpretation task*, low group learners appear to exhibit prototypical effects in perfective contexts, whereby, for example, learners generally selected the IMP over the PC with atelic predicates in perfective contexts. The atelic predicates in perfective contexts are: *manger dans le parc* ('eat in the park'), *sortir avec son amie* ('go out with his girlfriend'), *avoir besoin d'aide* ('need help'), and *être malade* ('be ill'), of which two are activity situation types (*manger* 'eat' and *sortir* 'go out') and two are statives (*avoir besoin* 'need' and *être* 'be'). A breakdown of tense selection for atelic predicates for low group learners is presented in Graphs 5.1 and 5.2.

Graph 5.1: English low group learners' tense selection for perfective viewpoint with atelic predicates



Graph 5.2: German low group learners' tense selection for perfective viewpoint with atelic predicates



The breakdown for the use of tense with atelic situation types in perfective contexts shows variation across predicates and groups. Both graphs show that *être* ('be') is used more with the IMP than any other atelic predicate. Despite *avoir besoin* ('need') and *être* ('be') belonging to the same situation type class, they seem to be treated differently by learners. Paired-samples t-tests were carried out to compare selection between the PC and the IMP for atelic predicates in perfective contexts. For English low group learners, there was a significant difference for *être* ('be') between the PC ($M=.158$, $SD=.375$) and the IMP ($M=.842$, $SD=.375$), $t(18) = -3.98$, $p < .001$. However, no significant differences for tense selection were found for *manger* ('eat'), *sortir* ('go out') and *avoir besoin* ('need'). For German low group learners, there was a significant difference for tense selection for *sortir* ('to leave') between the PC ($M=.737$, $SD=.452$) and the IMP ($M=.263$, $SD=.452$), $t(18) = 2.28$, $p < .05$, but not for *manger* ('eat'), *avoir besoin* ('need') and *être* ('be').

5.1.3 Summary of low group learners' viewpoint marking

In this section, results for English and German low group learners have been presented using both descriptive and inferential statistical methods. The following bullet points summarise this section's main findings:

- In perfective contexts, low group learners use the PC more than any other tense.

- In imperfective contexts, both groups fail to show preference for one tense. Instead they use a mix of the IMP, the PC and the PRES.
- Prototypical effects are found more in perfective contexts than in imperfective contexts.

5.2 Advanced group learners

5.2.1 Spoken narratives

An analysis of English- and German-speaking advanced group learners' spoken narratives shows that in perfective and imperfective contexts they predominately use the PC, the IMP, and the PRES, as well as some limited uses of the Pluperfect and the Conditional. Table 5.14 shows the tenses used in perfective and imperfective contexts in *les soeurs* by learners and NSs.

	Perfective	Imperfective (habitual)
English Low		
PC	64.3 (146)	35.9 (81)
IMP	13.2 (30)	56.6 (128)
PRES	20.3 (46)	5.3 (12)
Other	2.2 (5)	2.2 (5)
German Low		
PS	4.9 (11)	0 (0)
PC	77.2 (184)	57.1 (128)
IMP	9.8 (22)	35.3 (79)
PRES	6.7 (15)	1.3 (3)
Other	1.4 (3)	6.3 (14)
English Advanced		
PC	85.9 (195)	10.9 (24)
IMP	11.9 (27)	86.3 (189)
PRES	2.2 (5)	0.5 (1)
Other	0 (0)	2.3 (5)
German Advanced		
PC	80.2 (175)	4.7 (10)
IMP	16.1 (35)	92 (196)
PRES	3.2 (7)	0 (0)
Other	0.5 (1)	3.3 (7)
Control		
PC	100 (78)	0 (0)
IMP	0 (0)	100 (72)
PRES	0 (0)	0 (0)
Other	0 (0)	0 (0)

Table 5.14: Learners' use of tense in perfective and imperfective contexts in *les soeurs* in per cent

Table 5.14 shows that learners in the advanced groups perform similarly in their use of tense. In perfective contexts, both advanced groups select the PC most frequently and show limited use of the PRES, in contrast to learners in the low groups. In imperfective contexts, both advanced groups select the IMP most frequently. Paired-samples t-tests were carried out to compare differences in the selection of the PC, the IMP, and the PRES by advanced group learners in perfective contexts in *les soeurs*, as shown in Table 5.15.

		M	SD	d	t
English advanced group				226	25.368**
	PC	.859	.349		
	IMP	.119	.324		
				226	4.925**
	IMP	.119	.324		
	PRES	.022	.147		
			226	-34.067**	
	PC	.859	.349		
	PRES	.022	.147		
German advanced group				217	19.735**
	PC	.803	.399		
	IMP	.160	.368		
				217	5.655**
	IMP	.160	.368		
	PRES	.032	.177		
			217	-27.002**	
	PC	.803	.399		
	PRES	.032	.177		

**p<.001

Table 5.15: Paired-samples t-tests of advanced learners' tense selection in perfective contexts in *les soeurs*

Table 5.15 shows statistically significant differences in the selection of tense in perfective contexts in *les soeurs*. English and German advanced group learners all show statistically significant differences between the selection of the PC, the IMP, and the PRES ($p < .001$). Learners in the low groups also select the PC most in perfective contexts, however not as frequently as advanced group learners. Paired-samples t-tests were carried out to compare differences in the selection of the PC, the IMP, and the PRES by advanced group learners in imperfective contexts in *les soeurs*, as shown in Table 5.16.

		M	SD	d	t
English advanced group				218	-25.809**
	PC	.109	.313		
	IMP	.863	.345	218	26.360**
	IMP	.863	.345		
	PRES	.005	.068	218	5.058**
	PRES	.005	.068		
German advanced group				212	-38.216**
	PC	.047	.212		
	IMP	.920	.272	212	49.439**
	IMP	.920	.272		
	PRES	.000	.000	212	3.232**
	PRES	.000	.000		

**p<.001

Table 5.16: Paired-samples t-tests of advanced group learners' tense selection in imperfective (habitual) contexts in *les soeurs*

Table 5.16 shows statistically significant differences in the selection of tense in imperfective contexts in *les soeurs*. As found in perfective contexts, advanced group learners show statistically significant differences in the selection of the PC, the IMP, and the PRES (p<.001). A one-way analysis of variance (ANOVA) was carried out to compare differences between all learner groups for tense selection in perfective contexts, as shown in Table 5.17.

	M(SD)				F(4, 969)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.643(.480)	.821(.384)	.859(.349)	.803(.399)	15.820**
IMP	.132(.339)	.098(.298)	.119(.324)	.161(.368)	3.946**
PRES	.203(.403)	.067(.251)	.022(.147)	.032(.177)	20.167**

*<.001

Table 5.17: Comparison of tense selection in perfective contexts in *les soeurs*

ANOVA results in Table 5.17 show statistically significant differences between learners for the selection of the PC, the IMP, and the PRES in perfective contexts. Tukey Post

Hoc tests showed that (1) for the selection of the PC, English low group learners perform significantly differently to all learners and the control group ($p < .001$); (2) for the selection of the IMP, all learners perform significantly differently to the control group ($p < .001$); (3) and for the selection of the PRES, English low group learners perform significantly differently to all learners and the control group ($p < .001$).

Therefore, the ANOVA results show that learners in the English low group differ significantly from all other learner groups and NS with respect to the use of the PC and the PRES in perfective contexts. Note that English low group learners use the PC less than other learners and use the PRES more. In imperfective contexts, the IMP is only clearly selected most frequently by advanced group learners: German (92%) and English (86.3%). English and German low group learners mostly use the IMP and the PC in imperfective contexts. For English low group learners, the PC is used to mark imperfectivity at 35.9%, whilst for German low group learners' use of the PC (57.1%) outweighs use of the IMP (35.3%). An ANOVA indicates significant differences between learners for the selection of tense in imperfective contexts, as shown in Table 5.18.

	M(SD)				F(4, 949)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.358(.481)	.571(.496)	.109(.313)	.047(.212)	74.722**
IMP	.566(.497)	.353(.479)	.863(.345)	.920(.272)	13.417**
PRES	.053(.225)	.013(.115)	.046(.677)	.000(.000)	6.405**

**<.001

Table 5.18: Comparison of tense selection in imperfective (habitual) contexts in *les soeurs*

Table 5.18 shows that for the selection of the PC, the IMP, and the PRES an ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that (1) for the selection of the PC and the IMP, English and German low group learners perform significantly differently to advanced group learners and NS ($p < .001$); and (2) for the selection of the PRES, English low group learners perform significantly differently to all learners and the control group ($p < .001$).

Overall, results from *les soeurs* indicate that in perfective contexts learner groups are similar in showing clear preference for the PC; whilst in imperfective contexts, groups differ: advanced group learners clearly select the IMP the most, whilst German low group learners use the PC more than the IMP and English low group learners use the IMP, but also show some use of the PC. These results will now be compared to those from *Natalie et Albert*. Table 5.19 shows the tenses used in perfective and imperfective contexts in *Natalie et Albert* by learners and NS.

	Perfective	Imperfective (habitual)
English Low		
PC	77 (224)	27.3 (44)
IMP	20.3 (59)	44.1 (71)
PRES	2.4 (7)	26.1 (42)
Other	0.3 (1)	2.5 (4)
German Low		
PS	1.8 (6)	0 (0)
PC	74.8 (252)	32.6 (62)
IMP	15.8 (52)	35.3 (67)
PRES	7 (23)	31.6 (60)
Other	0.6 (2)	0.5 (1)
English Advanced		
PC	78.3 (275)	13.3 (26)
IMP	19.1 (67)	71.9 (141)
PRES	2.6 (9)	14.8 (29)
Other	0 (0)	0 (0)
German Advanced		
PC	72.9 (256)	12 (25)
IMP	18.2 (64)	72.6 (151)
PRES	7.9 (28)	14.9 (31)
Other	0.9 (3)	0.5 (1)
Control		
PC	100 (173)	0 (0)
IMP	0 (0)	100 (79)
PRES	0 (0)	0 (0)
Other	0 (0)	0 (0)

Table 5.19: Tense selection in perfective and imperfective (habitual) contexts in *Natalie et Albert* in per cent

Table 5.19 shows that learners in the advanced groups select the PC more than any other tense in perfective contexts and the IMP in imperfective contexts. These proportions for

the PC and IMP are lower in *Natalie et Albert* than in *les soeurs*, but they still select them at over 71%. Paired-samples t-tests were carried out to compare differences in the selection of the PC, the IMP, and the PRES by advanced group learners in perfective contexts in *Natalie et Albert*, as shown in Table 5.20.

		M	SD	d	t
English advanced group				350	22.563**
	PC	.784	.412		
	IMP	.191	.394		
				350	8.324**
	IMP	.191	.394		
	PRES	.026	.158		
German advanced group				350	-33.095**
	PC	.784	.412		
	PRES	.026	.158		
				350	20.558**
	PC	.729	.445		
	IMP	.182	.387		
				350	6.325**
	IMP	.182	.387		
	PRES	.079	.271		
				350	-25.471**
	PC	.729	.445		
	PRES	.079	.271		

**p<.001

Table 5.20: Paired-samples t-tests of advanced group learners' tense selection in perfective contexts

Table 5.20 shows statistically significant differences in the selection of tense in perfective contexts in *Natalie et Albert*. For both advanced groups, there are statistically significant differences in the selection of the PC, the IMP, and the PRES ($p<.001$). Significant differences for these tenses in perfective contexts are also found for low group learners (see Table 5.5). An ANOVA indicates significant differences between learners for the selection of tense in perfective contexts, as shown in Table 5.21.

	M(SD)				F(4, 1490)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.769(.422)	.766(.424)	.784(.412)	.729(.445)	14.385**
IMP	.202(.403)	.158(.365)	.191(.394)	.182(.387)	10.318**
PRES	.024(.153)	.069(.255)	.026(.158)	.079(.271)	7.348**

**p<.001

Table 5.21: Comparison of tense selection in perfective contexts in *Natalie et Albert*

Table 5.21 shows that for the selection of the PC, the IMP, and the PRES in perfective contexts, an ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that (1) for the selection of the PC and the IMP, all learners perform significantly differently from NS ($p<.001$); and for the selection of the PRES, German-speaking learners (advanced and low) perform significantly differently from NS and English-speaking learners ($p<.05$).

Therefore these results show that in perfective contexts all learners differ significantly from NS with respect to the use of the PC and the IMP. On the use of the PRES, German learners from both groups perform significantly differently from English learners and NS. There are comparatively fewer uses of the PRES by English learners (advanced: 2.6%; low: 2.4%) than German learners (advanced: 7.9%; low: 7%). The use of these same tenses in imperfective contexts was compared using paired-samples t-tests by advanced group learners, as shown in Table 5.22.

		M	SD	d	T
English advanced group				195	-16.639**
	PC	.133	.340		
	IMP	.719	.450		
				195	16.125**
	IMP	.719	.450		
	PRES	.148	.356		
			195	-1.741	
German advanced group				207	-17.835**
	PC	.120	.326		
	IMP	.726	.447		
				207	16.801**
	IMP	.726	.447		
	PRES	.149	.357		
			207	-2.480*	

**p<.001

*p<.05

Table 5.22: Paired-samples t-tests of advanced group learners' tense selection in imperfective (habitual) contexts

Table 5.22 shows statistically significant differences in the selection of tense in imperfective contexts in *Natalie et Albert*. There are statistically significant differences in advanced group learners' selection of the PC and the IMP ($p<.001$). Significant differences are also found for low group learners (see Table 5.6). An ANOVA indicates significant differences between learners and NSs for the selection of tenses in imperfective contexts, as shown in Table 5.23.

	M(SD)				F(4, 829)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.273(.447)	.326(.470)	.133(.340)	.120(.326)	16.040**
IMP	.441(.498)	.353(.479)	.719(.450)	.726(.447)	43.396**
PRES	.261(.440)	.316(.466)	.148(.356)	.149(.357)	12.361**

**<.001

Table 5.23: Comparison of tense selection in imperfective (habitual) contexts in *Natalie et Albert*

Table 5.23 shows that for the selection of the PC, the IMP, and the PRES in imperfective contexts an ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that (1) for the selection of the PC, low group learners perform significantly differently from advanced group learners and NS ($p < .001$); (2) for the selection of the IMP and the PRES, all learners perform significantly differently from NS, with advanced group learners also performing significantly differently from low group learners, ($p < .001$);

Therefore these results show that in imperfective contexts all learners differ significantly from NS with respect to the use of the IMP and the PRES. Significant differences are also found between advanced and low group learners for the IMP and the PRES. On the use of the PC, there are no significant differences between advanced group learners and NS.

The spoken narrative results show significant differences between advanced group and low group learners, especially in the use of tense in imperfective contexts. The results show contrasts between learners. These differences appear to be attributable to both proficiency and L1 background. This is because significant differences are generally found between (1) advanced group and low group learners and (2) between English-speaking and German-speaking low group learners. Turning to an analysis of tense selection according to situation type will show how learners compare in terms of situation-type influence on tense selection. Table 5.24 shows the tenses used in perfective and imperfective contexts according to situation type in *les soeurs* by learners and NSs.

	Perfective		Imperfective (habitual)	
	Telic	Atelic	Telic	Atelic
English Low				
PC	67.3 (37)	63.4 (109)	35.1 (40)	36.6 (41)
IMP	12.6 (7)	13.4 (23)	53.5 (61)	59.8 (67)
PRES	20 (11)	20.3 (35)	8.8 (10)	1.8 (2)
Other	0 (0)	2.9 (5)	2.6 (3)	1.8 (2)
German Low				
PS	5.6 (3)	4.7 (8)	0 (0)	0 (0)
PC	85.1 (46)	74.7 (127)	61.9 (70)	52.3 (58)
IMP	3.7 (2)	11.8 (20)	30.9 (35)	39.6 (44)
PRES	5.6 (3)	7 (12)	0.9 (1)	1.8 (2)
Other	0 (0)	1.8 (3)	6.2 (7)	6.3 (7)
English Advanced				
PC	89.1 (49)	84.9 (146)	13.5 (15)	6.6 (7)
IMP	9.1 (5)	12.8 (22)	81.9 (91)	92.5 (98)
PRES	1.8 (1)	2.3 (4)	0.9 (1)	0 (0)
Other	0 (0)	0 (0)	3.6 (4)	0.9 (1)
German Advanced				
PC	83.3 (45)	79.3 (180)	5.7 (6)	3.7 (4)
IMP	16.7 (9)	15.8 (26)	93.4 (99)	90.7 (97)
PRES	0 (0)	4.3 (7)	0 (0)	0 (0)
Other	0 (0)	0.6 (1)	0.9 (1)	5.6 (6)
Control				
PC	100 (18)	100 (60)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (30)	100 (43)
PRES	0 (0)	0 (0)	0 (0)	0 (0)
Other	0 (0)	0 (0)	0 (0)	0 (0)

Table 5.24: Tense selection according to situation type in *les soeurs*

Table 5.24 shows that advanced group learners use the PC and the IMP with telic and atelic situation types in similar proportions. An ANOVA indicates significant differences between learners and NSs for the selection of tenses in perfective contexts with telic (Table 5.25) and atelic (Table 5.26) situation types.

	M(SD)				F(4, 231)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.673(.474)	.907(.293)	.891(.315)	.833(.376)	4.680**
IMP	.127(.336)	.037(.191)	.091(.290)	.167(.376)	1.950
PRES	.200(.404)	.056(.231)	.018(.135)	.000 (.000)	6.553**

*p<.001

Table 5.25: Comparison of tense selection in perfective contexts with telic situation types in *les soeurs*

	M(SD)				F(4, 733)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.634(.483)	.794(.406)	.849(.359)	.793(.407)	11.669**
IMP	.134(.341)	.118(.323)	.128(.335)	.159(.366)	2.665**
PRES	.204(.404)	.071(.257)	.023(.151)	.043(.203)	14.038**

*p<.001

Table 5.26: Comparison of tense selection in perfective contexts with atelic situation types in *les soeurs*

Firstly, in perfective contexts, Table 5.25 shows that for the selection of the PC and the PRES with telic situation types an ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that: (1) for the selection of the PC, English low group learners perform significantly differently from advanced group learners and NS ($p<.001$); and (2) for the selection of the PRES, English low group learners perform significantly differently from all learner groups and NS ($p<.05$). There are no significant differences between groups for the IMP with telic situation types in *les soeurs*. Secondly, Table 5.26 shows statistically significant differences between learners for the selection of the PC, the IMP, and the PRES. Tukey Post Hoc tests showed that: (1) for the selection of the PC, low groups learners and German advanced group learners perform significantly differently from NS ($p<.05$), and all learner groups perform significantly differently from English low group learners ($p<.05$); (2) for the selection of the IMP, German advanced group learners perform significantly differently to NS ($p<.05$); and (3) for the selection of the PRES, English low group learners perform significantly differently to all groups ($p<.001$).

These results show that in perfective contexts with the PC, low group learners differ significantly from NS with atelic situation types, with English low group learners also doing so for telic situation types. For the IMP, there are no significant differences between groups with telic situation types. For the PRES, English low group learners differ from all groups. Differences between English low group learners and the other groups is due to the comparatively lower use of the PC and higher use of the PRES in this task.

An ANOVA indicates significant differences between learners and NSs for the selection of tenses in imperfective contexts with telic (Table 5.27) and atelic (Table 5.28) situation types.

M(SD)					
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	F(4, 469)
PC	.351(.479)	.619(.488)	.135(.343)	.057(.232)	38.778**
IMP	.535(.501)	.309(.464)	.819(.386)	.934(.249)	36.432**
PRES	.088(.284)	.009(.094)	.009(.095)	.000(.000)	6.243**

**p<.001

Table 5.27: Comparison of tense selection in imperfective (habitual) contexts with telic situation types in *les soeurs*

M(SD)					
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	F(4, 473)
PC	.366(.484)	.523(.502)	.066(.249)	.037(.191)	38.043**
IMP	.598(.492)	.396(.491)	.925(.265)	.907(.292)	41.769**
PRES	.018(.133)	.018(.134)	.000(.000)	.000(.000)	1.152

**p<.001

Table 5.28: Comparison of tense selection in imperfective (habitual) contexts with atelic situation types in *les soeurs*

In imperfective contexts, an ANOVA indicates statistically significant differences between learners for the selection of the PC, the IMP, and the PRES with telic situation types, as shown in Table 5.27. Tukey Post Hoc tests showed that: (1) for the selection of

the PC and the IMP, low group learners perform significantly differently from advanced group learners and NS ($p < .001$), with German low group learners also performing significantly differently to English low group learners ($p < .001$); and (2) for selection of the PRES, all groups perform significantly differently from English low group learners ($p < .001$). For atelic situation types in imperfective contexts, Table 5.28 shows ANOVA results indicating statistically significant differences between learners for the PC and the IMP. Tukey Post Hoc tests showed that for the selection of the PC and the IMP, advanced group learners and NS perform significantly differently from low group learners ($p < .001$), with German low group learners also performing significantly differently to English low group learners ($p < .001$). There are no significant differences between groups for the PRES.

Therefore, tense selection with telic and atelic situation types reveals that for the PC and the IMP low group learners perform significantly differently from advanced group learners and NS. Furthermore, English and German low group learners also perform significantly differently from each other. Comparing these results with those from *Natalie et Albert* will once again help create a fuller picture of the results. Table 5.29 shows the tenses used in perfective and imperfective contexts according to situation type in *Natalie et Albert*.

	Perfective		Imperfective (habitual)	
	Telic	Atelic	Telic	Atelic
English Low				
PC	83.9 (161)	71.9 (95)	24.6 (14)	26 (27)
IMP	13.5 (26)	25.8 (34)	45.6 (26)	42.3 (44)
PRES	2.1 (4)	2.3 (3)	26.3 (15)	29.8 (31)
Other	0.5 (1)	0	3.5 (2)	1.9 (2)
German Low				
PS	1.9 (4)	1.7 (2)	0 (0)	0 (0)
PC	82.3 (177)	60.9 (70)	34.7 (26)	31.3 (36)
IMP	8.8 (19)	28.7 (33)	37.3 (28)	33.9 (39)
PRES	6.5 (14)	7.8 (9)	28 (21)	33.9 (39)
Other	0.5 (1)	0.9 (1)	0 (0)	0.9 (1)
English Advanced				
PC	91.6 (206)	53.2 (67)	17.4 (12)	11 (14)
IMP	6.2 (14)	42.9 (54)	66.7 (46)	74.8 (95)
PRES	2.2 (5)	3.9 (5)	15.9 (11)	14.2 (18)
Other	0 (0)	0 (0)	0 (0)	0 (0)
German Advanced				
PC	83.1 (207)	48.4 (59)	13.1 (11)	11.4 (14)
IMP	8.9 (22)	42.6 (52)	69 (58)	75.6 (93)
PRES	6.8 (17)	9 (11)	17.9 (15)	12.2 (15)
Other	1.2 (3)	0 (0)	0 (0)	0.8 (1)
Control				
PC	100 (115)	100 (58)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (19)	100 (60)
PRES	0 (0)	0 (0)	0 (0)	0 (0)
Other	0 (0)	0 (0)	0 (0)	0 (0)

Table 5.29: Tense selection according to situation type in *Natalie et Albert*

As with the results from *les soeurs*, advanced group learners use the PC and the IMP with telic and atelic situation types. However, in contrast to *les soeurs*, the *Natalie et Albert* results in Table 5.29 indicate a situation-type influence. Advanced group learners show a preference towards the PC with telic situation types and the IMP with atelic situation types. An ANOVA indicates significant differences between learners and NS for the selection of tenses in perfective contexts with telic and atelic situation types, as shown in Tables 5.30 and 5.31.

	M(SD)				F(4, 991)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.839(.369)	.842(.367)	.916(.279)	.831(.375)	7.254**
IMP	.135(.343)	.088(.285)	.062(.242)	.088(.284)	4.845**
PRES	.021(.143)	.065(.247)	.022(.148)	.068(.253)	4.335*

*p<.05

**p<.001

Table 5.30: Comparison of tense selection in perfective contexts with telic situation types in *Natalie et*

Albert

	M(SD)				F(4, 548)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.719(.451)	.626(.486)	.532(.501)	.484(.502)	15.224*
IMP	.258(.439)	.287(.454)	.429(.497)	.426(.497)	11.780**
PRES	.023(.149)	.078(.269)	.039(.196)	.090(.260)	2.868*

*p<.05

**p<.001

Table 5.31: Comparison of tense selection in perfective contexts with atelic situation types in *Natalie et*

Albert

Table 5.30 displays the selection of the PC, the IMP, and the PRES in perfective contexts with telic situation types. An ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that: (1) for the selection of the PC, low group learners and German advanced group learners perform significantly differently from NS ($p<.001$), with English advanced group learners performing significantly differently from German advanced group learners ($p<.05$); (2) for the selection of the IMP, low group learners and German advanced learners perform significantly differently from NS ($p<.05$), whereas English advanced group learners do not; and (3) for the PRES, German low and advanced group learners perform significantly differently from NS ($p<.05$). For the use of these same tenses with atelic situation types, ANOVA results in Table 5.31 indicate significant differences between groups. Tukey Post Hoc tests showed that: (1) for the selection of the PC, all learners differ significantly from NS ($p<.001$), with English (but not German) low group learners differing significantly from advanced group learners, ($p<.001$); and (2) for the selection of the IMP, all learners differ significantly from NS ($p<.001$), with low group learners performing significantly

differently from advanced group learners ($p < .05$). All groups' selection of tense in imperfective contexts with telic and atelic situation types was compared with ANOVA, which indicated significant differences between groups, as shown in Tables 5.32 and 5.33.

	M(SD)				F(4, 299)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.246(.434)	.347(.479)	.174(.382)	.131(.339)	4.647**
IMP	.456(.503)	.373(.487)	.667(.475)	.691(.465)	10.321**
PRES	.263(.444)	.280(.452)	.159(.369)	.177(.385)	2.528*

* $p < .05$

** $p < .001$

Table 5.32: Comparison of tense selection in imperfective (habitual) contexts with telic situation types in *les soeurs*

	M(SD)				F(4, 523)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.259(.441)	.316(.467)	.110(.314)	.114(.319)	10.972**
IMP	.423(.496)	.342(.477)	.748(.436)	.756(.431)	34.589**
PRES	.298(.459)	.342(.477)	.142(.350)	.122(.329)	11.814**

** $p < .001$

Table 5.33: Comparison of tense selection in imperfective (habitual) contexts with atelic situation types in *les soeurs*

Table 5.32 shows that for the selection of the PC, the IMP, and the PRES with telic situation types in imperfective contexts an ANOVA indicates statistically significant differences between learners. Tukey Post Hoc tests showed that: (1) for the selection of the PC, German low group learners differ significantly from German advanced group learners and NS ($p < .05$); and (2) for the selection of the IMP, low group learners perform significantly differently from NS and German advanced learners ($p < .001$). ANOVA results for atelic situation types in imperfective contexts in Table 5.33 show significant differences in the selection of tense. Tukey Post Hoc tests showed that: (1) for the PC, low group learners differ significantly from advanced learners and NS ($p < .05$); (2) for the IMP, low group learners differ significantly from advanced learners and NS ($p < .001$),

with advanced group learners also performing significantly differently from NS ($p < .05$); and (3) for the PRES, low group learners differ significantly from advanced group learners and NS ($p < .05$).

The spoken narratives have shown that advanced and low group learners use the PC in perfective contexts more than any other tense. In imperfective contexts, advanced learners use the IMP more than any other tense, whilst low group learners fail to show preference for one tense and instead seem to use a mix of the IMP, the PC, and the PRES. With respect to situation type, results indicate no significant influence of situation type on tense selection in imperfective contexts for low group learners and German advanced group learners. However, English advanced group learners showed significant differences in the use of the IMP with atelic and telic situation types in *les soeurs*. In perfective contexts, statistically significant differences were found for all learners. There are statistically significant differences between the use of the PC and the IMP with telic and atelic situation types.

Across groups, ANOVAs and Tukey Post Hoc tests have revealed significant differences between groups. These differences are found in relation to differences in proficiency level (i.e. advanced vs. low) and L1 background (English vs. German). However, significant differences in L1 background are only found for low group learners and are generally absent between advanced group learners. Significant differences between low and advanced groups were found for: (a) tense selection in imperfective contexts with telic and atelic situation types, (b) use of the IMP in perfective contexts with atelic situation types, (c) use of the PC in imperfective contexts with atelic situation types, and (d) use of the PRES in imperfective contexts with atelic situation types.

5.2.2 Sentence interpretation

In the *Sentence Interpretation task* advanced group learners only ever rated sentences -1 or $+1$. There were no instances of 0 (don't know). Table 5.34 shows the tenses selected in

perfective and imperfective contexts in the *Sentence Interpretation task* by learners and NS.

	Perfective	Imperfective	
		Habitual	Progressive
English Low			
PC	63.2 (96)	31.6 (36)	21.7 (33)
IMP	36.8 (56)	68.4 (78)	78.3 (119)
German Low			
PC	71.7 (109)	25.4 (29)	29.6 (45)
IMP	28.3 (43)	74.6 (85)	70.4 (107)
English advanced			
PC	75 (114)	17.5 (20)	27.6 (42)
IMP	25 (38)	82.5 (94)	72.4 (110)
German advanced			
PC	77.8 (112)	17.6 (19)	27.8 (40)
IMP	22.2 (32)	82.4 (89)	72.2 (104)
Control			
PC	100 (48)	0 (0)	0 (0)
IMP	0 (0)	100 (36)	100 (48)

Table 5.34: Tense selection in perfective and imperfective contexts in the *Sentence Interpretation task* in per cent

Table 5.34 shows that advanced group learners select the PC in perfective contexts and the IMP in imperfective contexts, like low group learners. In this respect, advanced group learners perform consistently across all tasks, unlike low group learners. The *Sentence Interpretation task* results show that in perfective contexts the PC is rejected at 25% by English advanced group learners and 22.2% by German advanced group learners. Rejection of the PC in perfective contexts is higher for low group than advanced group learners. As for the imperfective contexts, for both advanced groups the IMP is rejected more frequently in progressive than in habitual contexts at very similar levels. This contrasts with the English low group learners who reject the IMP more frequently in habitual than progressive contexts. Paired-samples t-tests were carried out to compare these tense selections for advanced group learners in the *Sentence Interpretation task* in perfective contexts, as shown in Table 5.35.

		M	SD	d	t
English advanced group				151	12.288**
	PC	.750	.434		
	IMP	.250	.434		
German advanced group				143	13.370**
	PC	.778	.417		
	IMP	.222	.417		

**p<.001

Table 5.35: Paired-samples t-test results for advanced group learners' tense selection in perfective contexts in the *Sentence Interpretation task*

Table 5.35 shows for advanced group learners significant differences between selection of the PC and the IMP in perfective contexts, as also found for low group learners (Table 5.10). Paired-samples t-tests were carried out to compare tense selection in the *Sentence Interpretation task* in habitual and progressive (imperfective) contexts, as shown in Tables 5.36 and 5.37, respectively.

		M	SD	d	t
English advanced group				113	-14.459**
	PC	.175	.382		
	IMP	.825	.382		
German advanced group				107	-14.039**
	PC	.176	.383		
	IMP	.824	.383		

**p<.001

Table 5.36: Paired-samples t-test results for advanced group learners' tense selection in imperfective (habitual) contexts in the *Sentence Interpretation task*

		M	SD	d	t
English advanced group				151	-11.056**
	PC	.276	.449		
	IMP	.724	.449		
German advanced group				143	-10.696**
	PC	.278	.449		
	IMP	.722	.449		

**p<.001

Table 5.37: Paired-samples t-test results for advanced group learners' tense selection in imperfective (progressive) contexts in the *Sentence Interpretation task*

Tables 5.36 and 5.37 shows for advanced group learners significant differences between selection of the PC and the IMP in imperfective contexts ($p<.001$), as also found for low group learners (Tables 5.11 and 5.12). In all tasks, advanced group learners select the PC in perfective contexts and the IMP in imperfective contexts at over 71%. In perfective contexts, English low group learners select the PC above 63% in all tasks and for German low group learners this is above 71%. Therefore, in perfective contexts, all learners largely perform consistently across all tasks. An ANOVA indicates significant differences between groups for the selection of tenses in perfective contexts, as shown in Table 5.38.

	M(SD)				F(4, 643)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.632(.484)	.717(.452)	.750(.434)	.778(.417)	7.166**
IMP	.368(.484)	.383(.452)	.250(.434)	.222(.417)	7.166**

**p<.001

Table 5.38: Comparison of tense selection in perfective contexts in the *Sentence Interpretation task*

Table 5.38 shows statistically significant differences between learners and NS for tense selection in perfective contexts. Tukey Post Hoc tests showed that all learners differ from NSs for the selection of the PC and the IMP ($p<.05$). In addition, German low group learners differ significantly from English advanced learners ($p<.05$). An ANOVA also indicates significant differences between groups for the selection of tenses in

imperfective contexts, as shown in Table 5.39 for habitual contexts and Table 5.40 for progressive contexts.

	M(SD)				F(4, 481)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.316(.467)	.254(.437)	.175(.382)	.176(.383)	5.126**
IMP	.684(.467)	.746(.437)	.825(.382)	.824(.383)	5.126**

**p<.001

Table 5.39: Comparison of tense selection in imperfective (habitual) contexts in the *Sentence Interpretation task*

	M(SD)				F(4, 643)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC	.217(.414)	.296(.458)	.276(.449)	.308(.463)	5.601**
IMP	.783(.414)	.704(.458)	.684(.466)	.722(.449)	5.704**

**p<.001

Table 5.40: Comparison of tense selection in imperfective (progressive) contexts in the *Sentence Interpretation task*

Table 5.39 shows statistically significant differences between learners and NSs for tense selection in habitual contexts. Tukey Post Hoc tests showed that whilst learners do not differ significantly from each other for selection of the IMP and PC in habitual contexts, low group learners do differ significantly from NSs for selection of both the PC and the IMP ($p<.05$). In progressive contexts (Table 5.40), however, Tukey Post Hoc tests showed that all learner group differ significantly from NSs for the selection of the PC ($p<.05$), with no significant differences found between learner groups. For the selection of the IMP in progressive contexts, whilst all learner groups are significantly different from NSs, English low group learners are less significantly different ($p<.05$) than German low group and advanced group learners ($p<.001$)

These results are now compared with analyses based on situation type. Table 5.41 presents an analysis of tense selection according to situation type.

	Perfective		Imperfective			
	Telic	Atelic	Habitual Telic	Atelic	Progressive Telic	Atelic
English Low						
PC	80.3 (61)	46.1 (35)	10.5 (4)	42.1 (32)	33.3 (19)	14.7 (14)
IMP	19.7 (15)	53.9 (41)	89.5 (34)	57.9 (44)	66.7 (38)	85.3 (81)
German Low						
PC	89.5 (68)	53.9 (41)	15.8 (6)	30.3 (23)	38.6 (22)	24.2 (23)
IMP	10.5 (8)	46.1 (35)	84.2 (32)	69.7 (53)	61.4 (35)	75.8 (72)
English Advanced						
PC	94.7 (72)	55.3 (42)	0 (0)	26.3 (20)	61.4 (35)	7.4 (7)
IMP	5.3 (4)	44.7 (34)	100 (38)	73.7 (56)	38.6 (22)	92.6 (88)
German Advanced						
PC	98.6 (71)	56.9 (41)	8.3 (3)	8.3 (6)	55.6 (30)	11.1 (10)
IMP	1.4 (1)	43.1 (31)	91.7 (33)	91.7 (66)	44.4 (24)	88.9 (80)
Control						
PC	100 (24)	100 (24)	0 (0)	0 (0)	0 (0)	0 (0)
IMP	0 (0)	0 (0)	100 (12)	100 (24)	100 (18)	100 (30)

Table 5.41: Tense selection according to situation type in the *Sentence Interpretation task* in per cent

Table 5.41 shows that learners differ from NSs in their selection of the PC and the IMP according to the predicate's situation type. Although learners use the PC and the IMP with both telic and atelic situation types like NS, differences are indeed visible. An ANOVA indicates significant differences between groups for the selection of tenses in perfective contexts with telic and atelic situation types, as shown in Table 5.42.

	M(SD)				F(4, 319)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC Telic	.803(.401)	.859(.309)	.947(.225)	.986(.118)	5.347**
PC Atelic	.461(.502)	.539(.502)	.553(.501)	.569 (.499)	5.839**
IMP Telic	.197(.401)	.105(.309)	.053(.225)	.014(.118)	5.347**
IMP Atelic	.539(.502)	.461(.502)	.447(.501)	.431(.499)	5.839**

**p<.001

Table 5.42: Comparison of tense selection in perfective contexts with telic and atelic situation types in the *Sentence Interpretation task*

Table 5.42 shows significant differences for selection of the PC and the IMP with telic and atelic situation types in perfective contexts. Tukey Post Hoc tests showed for telic

situation types that: (1) for selection of the PC and the IMP, English low group learners differ significantly from advanced group learners and NS ($p < .05$), with no significant differences between low group learners. For atelic situation types, selection of the PC and IMP differs significantly between NS and all learner groups ($p < .001$). Learners do not differ significantly from each other. An ANOVA also indicates significant differences between groups for the selection of tense in habitual contexts with telic and atelic situation types, as shown in Tables 5.43 and 5.44.

	M(SD)				F(4, 157)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC Telic	.105(.311)	.158(.369)	.000(.000)	.083(.280)	1.984**
IMP Telic	.896(.311)	.842(.369)	1.000(.000)	.917(.280)	1.984**

p < .05

Table 5.43: Comparison of tense selection in imperfective (habitual) contexts with telic situation types in the *Sentence Interpretation task*

	M(SD)				F(4, 319)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC Atelic	.421(.497)	.303(.462)	.263(.443)	.083(.278)	8.655**
IMP Atelic	.579(.497)	.697(.462)	.697(.462)	.917(.278)	8.655**

**p < .001

Table 5.44: Comparison of tense selection in imperfective (habitual) contexts with atelic situation types in the *Sentence Interpretation task*

Table 5.44 shows significant differences for the selection of tense with atelic situation types. Tukey Post Hoc tests showed that for selection of the PC and the IMP, English low group learners' selection of the PC is significantly different from NSs ($p < .001$) and for the IMP both low groups are significantly different from NSs ($p < .05$)

In progressive contexts, an ANOVA also indicates significant differences between groups for the selection of tenses with telic and atelic situation types, as shown in Tables 5.45 and 5.46.

	M(SD)				F(4, 238)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC Telic	.333(.476)	.386(.491)	.614(.491)	.556(.502)	7.568**
IMP Telic	.667(.476)	.614(.491)	.386(.491)	.444(.502)	7.568**

**p<.001

Table 5.45: Comparison of tense selection in imperfective (progressive) contexts with telic situation types in the *Sentence Interpretation task*

	M(SD)				F(4, 400)
	English Low (n=19)	German Low (n=19)	English Advanced (n=19)	German Advanced (n=18)	
PC Atelic	.147(.356)	.242(.431)	.074(.263)	.111(.316)	4.601*
IMP Atelic	.853(.356)	.758(.431)	.926(.263)	.889(.316)	4.601*

*p<.05

Table 5.46: Comparison of tense selection in imperfective (progressive) contexts with atelic situation types in the *Sentence Interpretation task*

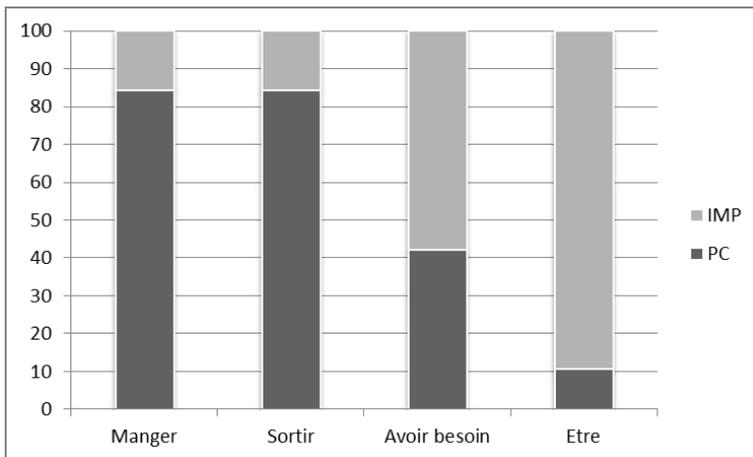
Table 5.45 shows significant differences for the selection of tense with telic situation types. Tukey Post Hoc tests showed that for selection of the PC advanced group learners are significantly different from NSs ($p < .001$) as are German low group learners ($p < .05$) but English low group learners are not. For the selection of the IMP with telic situation types in progressive contexts, advanced group learners are again significantly different from NSs ($p < .001$) as are German low group learners ($p < .05$), but English low group learners are not. For the PC and the IMP in progressive contexts with atelic situation types (Table 5.46), Tukey Post Hoc tests showed that for the PC and the IMP German low group learners differed significantly from NS ($p < .05$).

These results on the *Sentence Interpretation task* corroborate findings from the spoken narratives with reference to a situation-type influence. All learners show preference for the PC with telic situation types and for the IMP with atelic situation types in perfective contexts. Learners in the advanced groups show a stronger preference for these associations than learners in the low groups. Advanced group learners also show a situation-type bias in imperfective contexts, whilst low group learners do not.

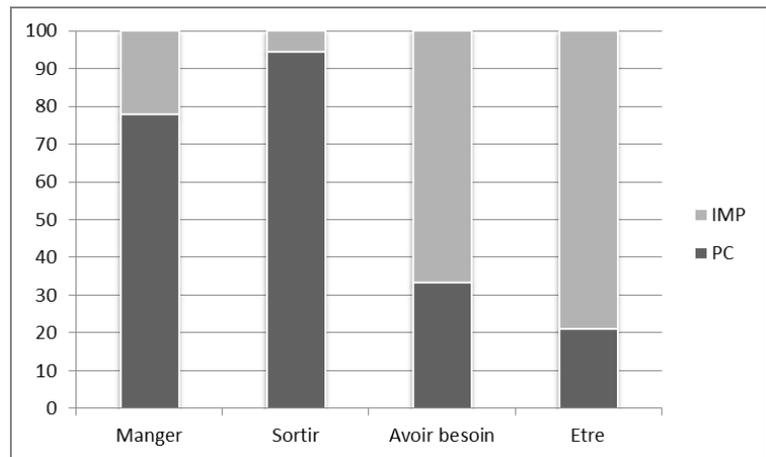
In the *Sentence Interpretation task*, two prototypical combinations stand out. First are atelic predicates with the IMP. In perfective contexts, these are: *manger dans le parc* ('eat in the park'), *sortir avec son amie* ('go out with his girlfriend'), *avoir besoin d'aide* ('need help'), and *être malade* ('be ill'), of which two are activity situation types (*manger* 'eat' and *sortir* 'go out') and two are statives (*avoir besoin* 'need' and *être* 'be'). Second are telic predicates with the PC. In imperfective contexts, these are: *arriver en classe* ('arrive in class'), *aller chez Anna* ('go to Anna's house'), *gravir la montagne* ('climb the mountain'), *commencer à 7 heures* ('start at 7 o'clock'), and *vendre une guitare* ('sell a guitar'), of which two are achievements (*arriver* 'arrive' and *aller* 'go') and three are accomplishments (*gravir* 'climb', *commencer* 'start' and *vendre* 'sell').

A breakdown of tense selection for the atelic predicates in perfective contexts is presented in Graph 5.3 for English advanced group learners and in Graph 5.4 for German advanced group learners.

Graph 5.3: English advanced group learners' tense selection with atelic predicates in perfective contexts



Graph 5.4: German advanced group learners' tense selection with atelic predicates in perfective contexts



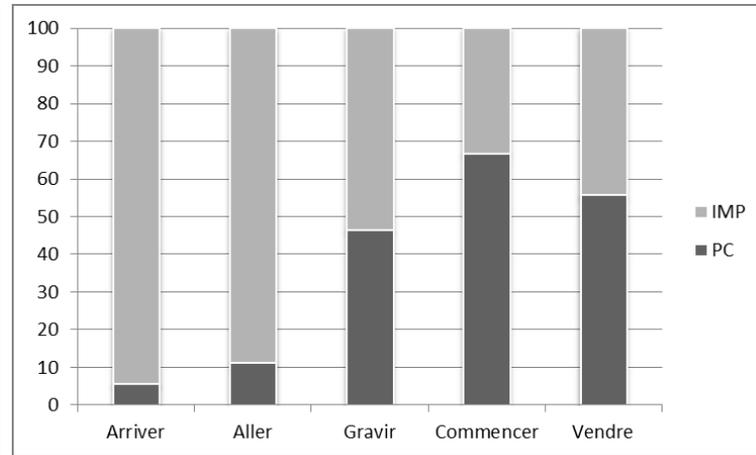
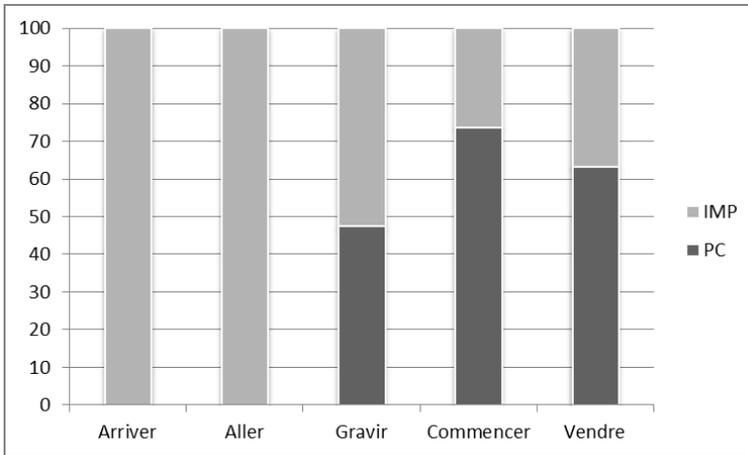
In Graphs 5.3 and 5.4 two different trends for PC and IMP selection are clear. The PC is selected in higher proportions for *manger* ('eat') and *sortir* ('go out') and the IMP is selected in higher proportions for *avoir besoin* ('need') and *être* ('be'). These trends are arguably due to differences in situation type. Advanced group learners select the PC more frequently than the IMP for activity situation types; but for statives, they select the IMP

more frequently than the PC. Therefore, in these non-prototypical contexts (i.e. PC with atelic situation types) statives are treated differently to activities. For the statives, advanced group learners almost entirely select the IMP, whilst for the activities, learners seem to almost entirely select the PC. Paired-samples t-tests were carried out to compare tense selection of the PC and the IMP with atelic predicates in perfective contexts. Significant differences were found for tense selection for *manger* ('eat') between the PC (M=.778, SD=.428) and the IMP (M=.222, SD=.428), $t(17) = 2.76$, $p < .001$ for German advanced learners and for English advanced group learners: PC (M=.842, SD=.375) and the IMP (M=.158, SD=.375), $t(18) = 3.98$, $p < .001$. For *sortir* ('go out'), between the PC (M=.944, SD=.236) and the IMP (M=.056, SD=.236), $t(17) = 8.00$, $p < .001$ for German advanced learners and for English advanced group learners: PC (M=.842, SD=.375) IMP (M=.158, SD=.375), $t(18) = 3.98$, $p < .001$. For *être* ('be'), between the PC (M=.222, SD=.428) and the IMP (M=.778, SD=.428), $t(17) = -2.76$, $p < .05$ for German advanced learners and for English advanced group learners: PC (M=.105, SD=.315) and IMP (M=.895, SD=.315), $t(18) = -5.46$, $p < .001$. However, no significant differences for tense selection with *avoir besoin* ('need') were found. Therefore, advanced group learners' selection of the PC over the IMP for activity predicates (*manger* 'eat' and *sortir* 'go out') is significant, as is selection of the IMP over the PC for *être* ('be'). These t-test results show that prototypical influence between IMP and atelic situation types is not due to all types of atelic predicate. More precisely, greater and statistically significant prototypical influence is found more with statives than with activity situation types.

A breakdown of tense selection for the telic predicates in imperfective contexts is presented in Graph 5.5 for English advanced group learners and in Graph 5.6 for German advanced group learners.

Graph 5.5: English advanced group learners' tense selection with telic predicates in imperfective contexts

Graph 5.6: German advanced group learners' tense selection with telic predicates in imperfective contexts



Tense selection with the telic situation types in imperfective contexts in Graphs 5.5 and 5.6 contrasts with atelic situation types (Graphs 5.3 and 5.4). Again, two different trends for PC and IMP selection are apparent. All English advanced group learners select the IMP with *arriver* ('arrive') and *aller* ('go') as do a very high proportion of German advanced group learners. However, for *commencer* ('start'), *gravir* ('climb') and *vendre* ('sell') the PC is selected comparatively more. These trends are arguably due to situation type differences. *Arriver* ('arrive') and *aller* ('go') are achievements whilst *gravir* ('climb'), *commencer* ('start'), and *vendre* ('sell') are accomplishments. Therefore, in these non-prototypical contexts (i.e. IMP with telic situation types) achievements are treated differently to accomplishments. For the achievements, advanced group learners almost entirely select the IMP, whilst for the accomplishments learners show more frequent use of the PC. Paired-samples t-tests were carried out to compare tense selection between the PC and the IMP with telic predicates in imperfective contexts. There was a significant difference in tense selection for *arriver* ('arrive') between the IMP ($M=.944$, $SD=.236$) and the PC ($M=.056$, $SD=.236$), $t(17) = -8.00$, $p < .001$ and for *aller* ('go') between the IMP ($M=.889$, $SD=.323$) and the PC ($M=.111$, $SD=.323$), $t(17) = -5.10$, $p < .001$ for German advanced group learners. For the accomplishment predicates, no significant differences were found for *gravir* ('climb') and *vendre* ('sell') for advanced

group learners. For *commencer* ('start'), there was a significant difference in tense selection between the IMP (M=.263, SD=.452) and the PC (M=.737, SD=.452), $t(18) = 2.28$, $p < .05$ for English advanced group learners but not for German learners. Advanced group learners' selection of the IMP over the PC with achievements is significant, whilst significant differences between tenses with accomplishments is largely non-significant (except for *commencer* ('start') for English advanced group learners).

These results show that advanced group learners are able to mark non-prototypical combinations, but combinations are not generalizable to an entire telic/atelic predicate class. Advanced group learners treat statives significantly differently to activities, and this applies to the difference between accomplishments and achievements. These results indicate that most problematic to advanced group learners are non-prototypicality with statives (i.e. PC with statives) and accomplishments (i.e. IMP with accomplishments).

5.2.3 Summary on advanced group learners' viewpoint marking

In this section, results for English and German advanced group learners have been presented using both descriptive and inferential statistical methods. The following bullet points summarise this section's main findings:

- Advanced group learners use the PC most frequently in perfective contexts.
- Advanced group learners use the IMP most frequently in imperfective contexts.
- Statistically significant prototypical effects are found in both perfective and imperfective contexts.

5.3 Conclusion

In this chapter, the study's empirical findings have been presented. Results were those obtained from two spoken narrative tasks and one *Sentence Interpretation task* (as presented in Chapter 4). The results showed how English- and German-speaking learners

of French L2 from two significantly different levels of proficiency mark viewpoint aspect:

General results

- All learner groups show preference for the PC in perfective contexts.
- Advanced group learners and low group learners are significantly different from each other with respect to tense selection in imperfective contexts.
 - Advanced group learners show preference for the IMP
 - Low group learners use a mix of the PC, the IMP, and the PRES.

L1 background

- English and German low group learners are significantly different from each other for tense use in perfective and imperfective contexts.
- Advanced group learners do not differ significantly from each other for tense use.
- The English low group is the only group that does not differ significantly from NSs in progressive contexts.

Prototypicality

- All learner groups show significant preference towards prototypical combinations.
 - The PC is used significantly more with telic than atelic situation types.
 - The IMP is used significantly more with atelic than telic situation types.
- Advanced group learners show significant prototypical effects with PC-telic and IMP-atelic combinations in perfective and imperfective contexts.
- Low group learners show significant prototypical effects with PC-telic and IMP-atelic combinations only in perfective contexts.

These results indicate significant differences between learners. That is, then, significant differences are found not only between learners at the same proficiency level, but at different proficiency levels. These results will be discussed in Chapter 6 with reference to the study's research questions, as presented in Chapter 6.

Chapter 6. Discussion

6.1 Introduction

This study set out to investigate the extent to which L1-L2 differences in form-meaning pairings for viewpoint aspect and prototypicality influence L2 development. This study's findings were presented in Chapter 5, following the data-collection procedures presented in Chapter 4. The results compared learners from (a) different L1 backgrounds and (b) different proficiency levels. All comparisons were drawn from inferential statistical methods (i.e. ANOVAs and t-tests (independent- and paired-samples)). In this chapter, these results are discussed in light of the research questions and hypotheses/predictions as set out in Chapter 4. This chapter starts by examining how learners of French L2 mark perfective and imperfective viewpoint, in section 6.2. The next two sections investigate the L2 development of viewpoint with reference to two independent variables: L1 background (section 6.3) and semantic prototypes (section 6.4). This chapter culminates in section 6.5, where the theoretical implications of the role of L1 background and semantic prototypes on L2 development are discussed.

6.2 Viewpoint marking

Chapter 5 showed that learners appear to use tenses to differentiate between different viewpoint types. However, although learners and NSs both use tense, the viewpoint meanings they map to different tenses are not consistently the same. For example, NSs always use the IMP in imperfective contexts, whereas the learners do not. From the results, it appears that learners primarily use three tenses in imperfective contexts: the IMP, the PC, and the PRES. In short, the results indicate clear form-meaning pairings for viewpoint aspect for NSs but not for learners. Learner differences for viewpoint aspect are explored. This section begins by showing the particular tenses learners use in perfective and imperfective contexts, which then leads into a discussion of the trends in learners' use of tense.

6.2.1 Perfective viewpoint marking

Learners and NS use the PC in perfective contexts, but to different extents: NS exclusively use the PC in perfective contexts, but learners also use the PRES and the IMP. Results from *les soeurs* and *Natalie et Albert* show that both low group and advanced group learners show preference for the PC over both the PRES and the IMP. However, learners generally do not perform consistently in their use of a particular tense. This is clearest from the English low group's use of the PC in perfective contexts, which fluctuates between 64.3% in *les soeurs* and 77% in *Natalie et Albert*; a difference of 12.7%. English low group learners' variation in the use of the PC in perfective contexts distinguishes them significantly from the other learner groups in *les soeurs* ($p < .001$), whilst in *Natalie and Albert* no such significant differences between learner groups were found. Furthermore, English low group learners' use of the PRES in *les soeurs* is also significantly higher than the other learner groups ($p < .001$).

In perfective contexts, there is considerable variation in the use of the PC and the PRES by English low group learners across production tasks, whilst for the other learner groups there appears to be more stability in the use of tense. English low group learners' use of the PRES is not restricted to specific situation types (i.e. atelic) and furthermore, it is not consistently used throughout the story, but is concentrated in the last part of the story:

- *E14_LG: euh elles arrivent à Barcelone
'euh they arrive at Barcelona'
- *E14_LG: où ils mangent des pizzas
'where they eat pizza'
- *E06_LG: euh <ils avaient> [//] non <ils ont eu> [//] non non ils
ont de nouveaux sièges
'euh they had / no they had / no no they have new seats'
- *E06_LG: euh euh elles se détendent
'euh euh they relax'
- *E08_LG: euh et elles réfléchent à la cause de l'accident
'euh and they think about the cause of the accident'
- *E08_LG: et elles se sentent des gouttes de pluie
'and they feel rain drops'
- *E08_LG: euh et demandent l'aide du contrôleur
'euh and ask for the conductor's help'
- *E08_LG: elles ont de nouveaux sièges
'they have new seats'
- *E08_LG: donc elles se détendent
'then they relax'

The extracts above show three English low group learners who use the PRES in successive strings. This is best exemplified by learner E08_LG, who uses the PRES in succession five times. At least six other learners in this group also use the PRES in succession and then switch to a past tense (nearly always the PC). Note learner E06_LG who goes through three different tenses for *avoir* (IMP *ils avaient* ‘they had’, PC *ils ont eu* ‘they had’ and PRES *ils ont* ‘they have’) and settles for the PRES. This learner clearly attempts a past form, but decides on a PRES. As the PRES is not used consistently across tasks in obligatory perfective contexts and then when it is used, its use is mostly concentrated (82.6%) in one part of one story, this suggests variability, largely between the PC and the PRES, for perfective marking in English low group learners’ IL grammar. In the German low group data, use of the PRES in obligatory perfective contexts is more stable across production tasks: 6.7% in *les soeurs* and 7% in *Natalie et Albert*. Note that German low group learners’ use of the PRES in *Natalie et Albert* is higher than English speakers (i.e. 7% and 2.4%, respectively). With the exception of the *les soeurs* data for English low group learners, use of the PRES is consistently low across all tasks for all learner groups, but they are still produced as the following examples show:

- *E10_LG: et il a peur
 ‘and he is scared’

- *E12_LG: euh mais il ne retourne pas
 ‘euh but he doesn’t go back’

- *G07_LG: et puis il rentre très fatigué à la maison
 ‘and then he comes back to the house very tired’

- *G02_AG: Albert rentre à la maison totalement mouillé
 ‘Albert comes back to the house totally wet through’
- *G02_AG: et il trouve euh le repas
 ‘and he finds euh food’

- *G03_AG: il entre dans sa porte de chat
 ‘he comes through his cat flap’
- *G03_AG: et dans son corbeille il voit Natalie
 ‘and in his basket he sees Natalie’

- *E04_AG: il trouve euh la petite fille
 ‘he finds euh the little girl’

- *E05_AG: et il cherche par la poubelle
 ‘and he searches by the bin’

It is suggested that because the PRES is not consistently used in obligatory perfective contexts that its use denotes a ‘default setting’ (Bergström, 1995; Dulay and Burt, 1972; Howard, 2002; Kihlstedt, 1998; 2002; Liskin-Gasparro, 2000). Although there is consistent agreement that L2 learners’ performance exhibits variation (or optionality), there is still little agreement as to what optionality implies. Not only has optionality been argued to indicate impairment to learners’ IL grammar (Beck, 1998; Hawkins, 2001; Hawkins and Chan, 1997; Hawkins and Hattori, 2006, Meisel, 1991, 1997), but it has also been claimed that optionality reflects difficulties with overt morphological realization (Haznedar and Schwartz, 1997; Lardiere, 1998a, 1998b, 2000, 2003, 2005, 2007; Prévost and White, 1999, 2000; Schwartz, 1991). For Lardiere (1998a, 1998b, 2000, 2003, 2005, 2007) and Prévost and White (1999, 2000), optionality is a consequence of the reconfiguration of L1 form-meaning pairings in the L2. The implication is that default forms have the same properties as the target form. The problem resides in overt morphological realization. In Prévost and White’s (2000) analysis of finite and non-finite verbs in French and German L2, they find non-finite verbs generally occurring in finite positions, but not the other way round. Subsequently, they suggest that non-finite verbs that occur in finite positions are not actually non-finite at all, but in fact ‘finite defaults’. In other words, ‘although non-finite in form, they behave syntactically like finite verbs’ (Prévost and White, 2000:125). Therefore, according to Prévost and White, although the surface morphology is non-finite the properties mapped to it are finite, resulting in a ‘mapping problem’ (Lardiere, 2000, 2007; Slabakova, 2008). It is debatable whether, in this study, learners’ use of the PRES in obligatory perfective contexts is perfective in all but form, especially because the PRES is concentrated in one part of one task, and in *Natalie et Albert* it hardly surfaces at all.

In an analysis of individual results in *les soeurs*, English low group learners used the PRES 46 times, the majority of which occurred at the same point in the story. As discussed in Chapter 4, *les soeurs* presents two aspectual contrasts: (1) from perfective → imperfective (habitual) and (2) from imperfective (habitual) → perfective. For the perfective contexts, the PRES was used little at the beginning (8 uses), but considerably more when the story shifted from imperfective to perfective (38 uses). The second

narrative shift required them to move from retelling life when the sisters were little (habituality) to a one-time event train crash (perfectivity). As only one learner group switches to the PRES at the last narrative shift in *les soeurs*, it cannot be reasonably argued to be due to a task effect. Two possible reasons for this outcome are suggested. Firstly, there are processing demands. Learners were required to remember that the story was set in the past after the second narrative shift. There were no overt cues (e.g. time references) at the second narrative shift showing that the story continued in the past. Indeed Comajoan (2005) argues for ‘processing effects’ in his data on the retelling of narratives, in which one narrative required learners to remember the storyline and a different narrative consistently provided learners with prompts. When learners had to rely on their memory for the storyline he found greater variability across tasks in learners’ production. Although the tasks in this study required little or no ‘memory’ demand, learners still had to remember that the story took place in the past after the second narrative shift. Skehan (1998) argues that if a task requires greater attention or processing on the part of the learner because of its content and design, then this negatively affects performance in terms of fluency and accuracy. The intended design of *les soeurs* required learners to contrast viewpoints and it could be argued that the sudden switch in the last section of the story (i.e. habitual → perfective) was very sudden. However, it is not clear why processing loads and the task’s design and content would only affect English low group learners and not the other groups. They performed the task in the same conditions as all the other participants. A second explanation for English low group learners’ variability in *les soeurs* relates to fragility in their IL grammar for perfective marking. Variability in obligatory perfective contexts is also noted by Clahsen, Martzoukou and Stavrakaki (2010), who note that the PRES consistently surfaces alongside perfective past forms in Greek L2 for both learners and NSs. Following Prévost and White (2000), Clahsen, Martzoukou and Stavrakaki (2010:519) argue that the PRES ‘sometimes’ surfaces alongside the perfective past due to ‘a production-specific problem caused by performance limitations resulting from the particular communication pressures of language production’. When ‘performance limitations’ are exceeded due to task design, this appears to lead to ‘a production-specific problem’. English low group learners’ high use of the PRES in perfective contexts at the second narrative shift could be due in part to

task design and in part to performance limitations. According to Tavakoli and Foster (2008), when ‘there is an obvious progression from one picture to the next’ in task design, then this ‘releases attentional resources that would otherwise have to be expended on finding narrative connections’ (Tavakoli and Foster, 2008:460). In other words, if the task’s narrative structure is not immediately clear, then instead of focusing on production, learners instead try to work out how the story fits together. If learners end up focusing on ‘finding narrative connections’ then this is argued to negatively affect their performance. The PRES may have surfaced in *les soeurs* due to fragility in English low group learners’ IL grammar for perfectivity. It may have been the sudden narrative shift that exposed this fragility in their IL grammar Fragility, because the narrative shift required learners not only to focus on language production, but also on making sense of the narrative. In sum, use of the PRES by English low group learners could be explained by performance limitations brought about by the task design. Furthermore, Prévost and White (2000) add that in cases where a meaning has been mapped (e.g. perfectivity to the PC) learners may still encounter difficulties in accessing fully mapped forms because of ‘processing loads’ or ‘communication pressure’, in which case ‘underspecified forms continue to surface’ (Prévost and White, 2000:129). In other words, learners may have mapped perfectivity to the PC, but due to ‘processing loads’ the PRES continues to surface. Indeed this account is adopted by Clahsen, Martzoukou and Stavrakaki (2010) to account for the use of the PRES and imperfective forms in perfective contexts by learners of Greek L2. Therefore, if the PRES was an earlier default form for perfective marking in learners’ IL grammar, then it is plausible that traces of the PRES as a perfective marker could remain.

In contrast to the PRES, the IMP is used more consistently in obligatory perfective contexts by the learner groups, used more in *Natalie et Albert* (15.8% - 20.3%) than in *les soeurs* (9.8% - 16.1%). Use of the IMP in perfective contexts was also found by Ayoun (2004, 2005) and Labeau (2005). There are no significant differences between learner groups in their use of the IMP in obligatory perfective contexts, as noted in Chapter 5. Ayoun (2005) notes that in her spoken data the IMP is largely restricted to statives (44 out of 47 uses of the statives are with the IMP). Labeau (2005:143) also reports a similar trend in her spoken and written narratives for *avoir* (‘have’) and *être* (‘be’), which she

labels ‘rote-learned formulas’. Ayoun and Salaberry (2005), Comajoan (2006) and Salaberry (2008) suggest a very close association between input frequency and the IMP: the semantically prototypical IMP-stative combination is high in learners’ IL because this prototypical combination is high in input frequency. Comajoan and Salaberry’s claim is partially supported by the results in the current study, following Ayoun’s (2005) and Labeau’s (2005) results for the IMP in French L2. For example, in *les soeurs*, the IMP in perfective contexts is used more with atelic (79.8%) than telic (20.2%) situation types:

- *E10_LG: maintenant elles pouvaient se détendre
 `now they were able to relax’

- *E15_LG: elles mangeaient des tapas
 `they were eating/used to eat tapas’

- *G01_LG: phew comme ça Alex et Lana pouvaient se détendre encore une
 fois
 `pew like that Alex and Lana were able to relax once
 again’

- *G04_LG: elle mangeait des tapas ###
 `she was eating/used to eat tapas’

- *E03_AG: parce qu'elles avaient des nouveaux sièges
 `because they had new seats’

- *E14_AG: ils pouvaient se détendre
 `they were able to relax’

- *G02_AG: enfin les deux pouvaient se détendre
 `finally they were able to relax’

- *G03_AG : euh <elles> [/] elles mangeaient des tapas
 `euh they they were eating/used to eat tapas’

As use of the IMP in perfective contexts is largely restricted to atelic situation types, it is reasonable to suggest that these are not ‘defaults’. Rather, following Ayoun and Salaberry (2005) and Housen (2002), these IMPs could be products of ‘an associationistic process that matches the use of the imperfective past tense with specific, frequent, and few verbs (mostly stative)’ (Ayoun and Salaberry, 2005:261). VanPatten, Williams and Rott (2004) and Ellis (2004) claim that the role of input frequency is a ‘key factor’ in establishing form-meaning connections. Moreover, VanPatten, Williams and Rott (2004:15) argue that frequency has an important impact on ‘the initial establishment, strengthening, or integration of [form-meaning] connections’ but at the same time ‘it is not yet clear if

frequency affects all aspects of language in the same way: lexical versus grammatical'. VanPatten, Williams and Rott's claim supports studies investigating the effect of input frequency on development showing mixed results on frequency effects (e.g. Bardovi-Harlig and Reynolds, 1995; Lee, 2002; Williams and Evans, 1998; White, 1998). The 'associationistic' claim for prototypical IMP-stative combinations arguably underlies Ullman's (2001, 2005, 2007) procedural/declarative model, in which he proposes that language learning and use is based on two different 'capacities': (a) an associative memory component and (b) a computational component 'of rules that underlie the sequential and hierarchical composition of lexical forms into predictably structured larger words, phrases, and sentences' (Ullman, 2001:37). Ullman proposes that in SLA high frequency forms are memorized in their entirety because the 'more often a word is encountered, the better it is remembered' (Ullman, 2001:52). If Ullman's account is correct and if stative IMPs are as high frequency as Ayoun and Salaberry suggest, then it is indeed a plausible suggestion that they are products of an associationistic process, as opposed to a generative one. Such a claim seems largely impressionistic, however, and further research on input frequency, tense and language processing is required to support it. Furthermore, it remains unclear why only the prototypical atelic IMPs would be subject to an 'associationistic process' rather than other prototypes, such as telic PCs.

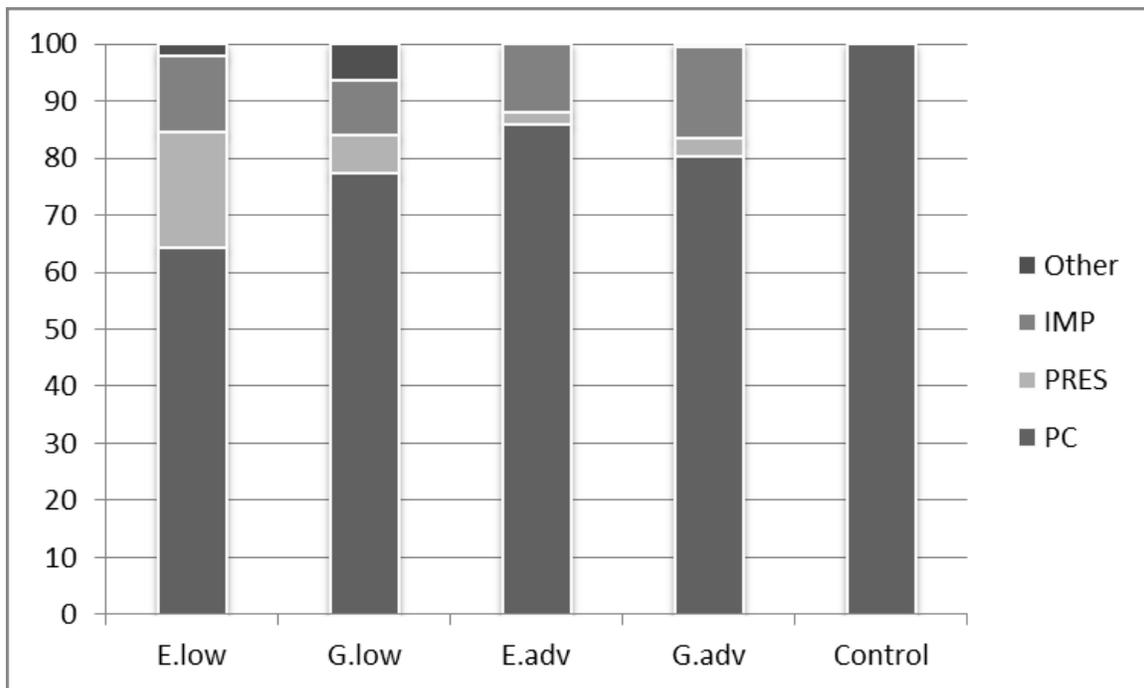
As for the PC, learners and NSs use the PC in perfective contexts, but to different extents: in all tasks, learners' use of the PC is significantly different from NSs. Ayoun (2005) and Labeau (2005) note that the PC is the main perfective marker for both learners and NSs. Labeau (2005:145) further remarks that 'the distribution of the PC remains fairly stable across levels [i.e. Year 1, Year 2, and Year 4] and aspectual classes, which may indicate that the form is well grounded in the learners' IL and mastered with near-native standards'. It was noted in section 6.2 that this tendency is generally replicated in the present study with regard to the *Natalie et Albert* data, but not in *les soeurs*. However, just because there are similarities in a form's frequency between learners and NSs, does this necessarily mean that the same form in IL and TL are equivalent? In other words, is learners' use of the PC actually native-like, or, as Labeau (2005:145) puts it, is 'mastered with near-native standards'? Oddly, Labeau (2005:182) also notes that the 'PC is used to

express past imperfective in our corpora'. Therefore, it is unclear how the PC's use is 'native-like' when learners use it in imperfective contexts. Labeau's 'near-native mastery' conclusion appears to be in reference to the frequency of PC use, which is similar in learners and NSs. Frequency of use and function are not necessarily the same. Indeed, Bley-Vroman (1983) warns against analysing learners' IL only in relation to the TL, referred to as the comparative fallacy. In the present study, it is argued that the PRES in IL is different to the PRES in TL (i.e. typically expressing present time reference): learners' use of the PRES in obligatory perfective contexts may be perfective in all but form, perhaps due to a mapping problem (following Lardiere, 199a, 1998b, 2000, 2003, 2005, 2007 and Prévost and White, 1999, 2000). However, see Labeau (2005) and Saddour (2011), who claim that their learners' use of the PRES in perfective contexts is native-like: they are instances of a narrative PRES (Présent historique). Moreover, the PRES in perfective contexts may just be a default not marking any viewpoint information at all (Kihlstedt, 1998, 2002). Therefore, although the PC generally appears less variable than the PRES, it is questionable whether it is a consistent marker of perfectivity in learners' IL.

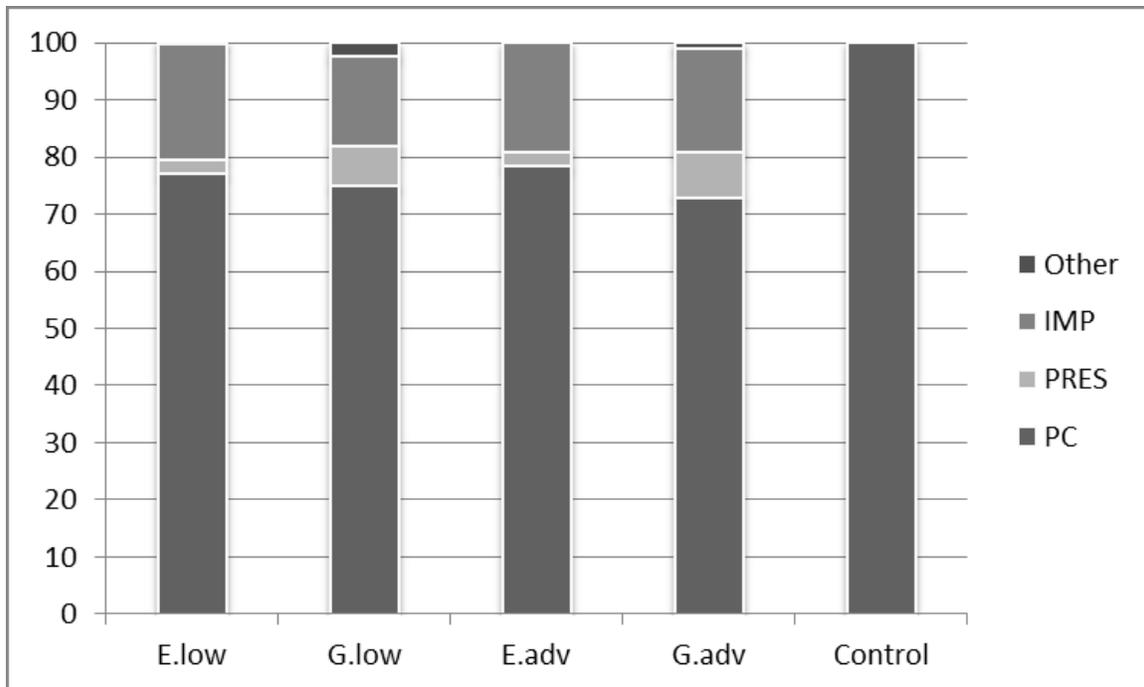
English low group learners use the PC in obligatory perfective contexts in all tasks, although it is used most in *Natalie et Albert* (77%). In contrast, German low group learners' use of the PC across tasks is more stable: 74.8% in *Natalie et Albert*, 77.2% in *les soeurs*, and 71.7% in the *Sentence Interpretation task*. Therefore, German low group learners' use of the PC is not only more frequent than English low group learners, but it is seemingly more stable. Furthermore, English low group learners' use of the PC is significantly lower than German low group learners in *les soeurs* ($p < .001$), but there are no significant differences between these two learner groups in the other two tasks, as already noted. In Labeau's analysis, it could be concluded that German low group learners' use of the PC in perfective contexts is 'near-native' because of its frequency of use. However, the fact that this form is also frequently used in imperfective contexts casts doubt on the function of the PC in German low group learners' IL grammar.

In summary, statistically significant L1 differences between English and German low group learners exist in perfective contexts. German low group learners' use of the PC appears relatively stable. Although this group differs significantly from NSs, their use of the PC appears to mirror learners in the advanced groups. However, it may be a little premature to conclude that German low group learners' stable use of PC marks perfectivity. This is the only learner group that uses the same tense the most in both perfective and imperfective contexts, whilst English low group and advanced group learners frequently select one tense (the PC) in perfective contexts and a different tense (the IMP) in imperfective contexts. This indicates that only German low group learners do not consistently distinguish perfective from imperfective viewpoint with tense.

To summarise this section, Graphs 6.1 and 6.2 show how learners and NSs' use of tense in perfective contexts in the spoken production tasks (for raw and percentage scores, see Chapter 5, Tables 5.19 and 5.24).



Graph 6.1: tenses used in perfective contexts in *les soeurs*



Graph 6.2: tenses used in perfective contexts in *Natalie et Albert*

6.2.2 Imperfective viewpoint marking

Learners and NSs use the IMP in imperfective contexts, but to different extents: NS only use the IMP in imperfective contexts, but learners also use the PRES and the PC. The results show clear and significant contrasts between proficiency levels, with advanced group learners consistently using the IMP the most, whilst low group learners show greater variability in the use of tense in imperfective contexts.

In imperfective contexts, all tasks investigated habituality, with the *Sentence Interpretation task* also investigating progressivity. NSs only use the IMP in habitual and progressive contexts, whereas learners use the IMP, the PC, and the PRES in these same imperfective contexts. Statistically significant differences are not only found between learners and NSs in imperfective contexts, but between low group and advanced group learners and between English-speaking and German-speaking low group learners.

Firstly, in habitual contexts, there are differences between tasks in use of the PRES: used more in *Natalie et Albert* (14.8% - 31.6%) than in *les soeurs* (0% - 5.3%). In *Natalie et*

Albert, low group learners use the PRES significantly more than advanced group learners ($p < .001$), whilst in *les soeurs* only English low group learners use the PRES significantly more than the other learner groups ($p < .05$). The PRES in imperfective contexts is used with both telic and atelic situation types (as documented in Chapter 5, Tables 5.29 and 5.36):

- *E01_LG: et il quitte la maison pour euh jouer dans le jardin
'and he leaves the house to play in the garden'
- *E04_LG: et elle joue avec ses copains aussi dans le jardin
'and she plays with her friends in the garden as well'
- *E07_LG: euh il sort de la maison
'euh il leaves the house'
- *G07_LG: ils jouent ensemble
'they play together'
- *G09_LG: elle fait des dessins
'she draws pictures'
- *G11_LG: à la fin de la journée les deux se retrouvent
'at the end of the day thw two meet up'
- *G18_LG: et puis il grimpe les arbres
'and then he climbs the trees'
- *E02_AG: et ils retournent chez eux
'and they go back to their house'
- *E12_AG: euh à la fin de la journée euh ils se rejoignent tous les deux
'euh at the end of the day they both meet up'
- *E13_AG: elle joue avec ses copains
'she plays with her friends'
- *E16_AG: et il dort sous le soleil
'and he sleeps in the sun'
- *G02_AG: donc il sort pour jouer
'then he goes out to play'
- *G13_AG: il joue aussi sur les arbres
'he also plays in the trees'
- *G14_AG: et il se fait bronzer
'and he sunbathes'
- *G18_AG: et les deux rentrent à la maison
'and the pair go back to the house'

It has already been noted in section 6.2.1 that the PRES surfaces in obligatory perfective contexts. Variability in the use of the PRES across tasks suggests it surfaces due to ‘processing loads’ or ‘communication pressure’ (Clahsen, Martzoukou and Stavrakaki, 2010; Prévost and White, 2000; Skehan, 1998; Tavakoli and Foster, 2008): use of the PRES in perfective contexts may reflect traces of a previous default form. This appears to apply to imperfective contexts as well, because its use is not stable across tasks. Furthermore, there is greater variability in tense selection in imperfective over perfective contexts, as also noted by Howard (2002, 2005) and Labeau (2005). Labeau (2005) observes that her French L2 learners also use the PC and the PRES in addition to the IMP in imperfective contexts. She notes, along with Kaplan (1987), that imperfectivity ‘is first expressed by the PRES’ (Labeau, 2005:184). In addition, she states that the ‘PC is used to express past imperfective’ (Labeau, 2005:182). Howard (2002) also finds that the PC is used most in imperfective contexts. Furthermore, in line with the results from the present study, he notes that use of the IMP in imperfective contexts increases with proficiency. Variability in the use of tense in imperfective contexts by less proficient learners (low group learners in this study) is corroborated by Domínguez, Arche and Myles (2011), who found that across three different proficiency levels, the least proficient group showed significant preference for the Spanish Preterit (perfective marker in Spanish) in imperfective contexts. In addition, as found in the present study and by Howard (2002, 2005) and Kihlstedt (1998, 2002), Domínguez, Arche and Myles’ (2011:09-10) results show that use of the Imperfect in imperfective contexts increases alongside proficiency, with no significant differences between the most proficient learners and NSs in progressive and habitual contexts.

Although the PRES surfaces in perfective and imperfective contexts, its use is variable. The PRES in learners’ IL is argued not to have the same status as in the TL (i.e. conveying present time reference). Moreover, as the PRES in imperfective contexts is used more by low group than advanced group learners, it is argued that the mapping of imperfectivity is less developed (and less stable) in low group learners’ IL grammar. To this end, Kihlstedt (1998, 2002) indicates that the PRES in her data are not instances of a mapping problem. She argues that they are ‘backslides’ because they ‘co-exist’ with the

IMP, used most often by her least proficient learners (Eva and Marie) ‘replacing *imparfait* forms *était* ‘was’ and *avait* ‘had’ (Kihlstedt, 2002:349). Despite also collecting data from university learners of French L2, Kihlstedt’s results contrast with the present study’s findings because she found that the PRES ‘almost exclusively appeared in imperfective contexts [...] where a base form in the present competes with the *imparfait*.’ (ibid.). She argues that the PRES is a ‘replacement’ for the IMP in imperfective contexts, but as proficiency increases, use of the PRES in imperfective contexts reduces. Harley (1992) and Kaplan (1987) also note that the PRES in imperfective contexts reduces as L2 proficiency increases. In contrast, Labeau (2005:189) finds that the PRES as a ‘replacement form for the IMP [...] do[es] not differ much from those of PRES replacing perfective pasts [PC]’. Therefore, although Kihlstedt claims that the PRES ‘replaces’ the IMP, this is not confirmed by Labeau, who instead found that the PRES surfaces in both perfective and imperfective contexts to ‘replace’ both native-like use of the PC and the IMP. The results from the present study are consistent with Labeau’s findings. Differences in the use of the PRES found by Kihlstedt may be due to her learners being more advanced than the learners in the present study. This may explain why the PRES is restricted to just imperfective contexts in her corpus and not used in both perfective and imperfective contexts. Advanced group learners in this study use the PRES in both perfective and imperfective contexts, although generally its use reduces as proficiency increases: in *Natalie et Albert* low group learners use the PRES in imperfective contexts significantly more than advanced group learners ($p < .001$).

In contrast to NSs, learner groups also use the PC in imperfective contexts. In both production tasks, low group learners use the PC significantly more than advanced group learners ($p < .001$)²². Furthermore, German low group learners select the PC significantly more frequently than English low group learners in imperfective contexts ($p < .001$). The PC in imperfective contexts in the production tasks significantly distinguishes advanced group learners (4.7% - 13.3%) from low group learners (27.3% - 57.1%). Therefore, unlike the PRES, use of the PC in imperfective contexts appears to be a reliable indicator of differences in L1 background (German low vs. English low) and proficiency level (low

²² There are no significant differences between learner groups for the PC in the sentence interpretation task.

vs. advanced). Furthermore, similar to the PRES, the PC in imperfective contexts is used with both telic and atelic situation types (as shown in Chapter 5, Tables 5.29 and 5.36):

- *E01_LG: le weekend Alex <a> [/] a lu des livres a écrit des histoires et a ## pendu des dessins
'at weekends Alex read books, read stories and painted pictures'
- *E02_LG: euh <en> [//] euh <pendant la> [//] en revanche pendant la semaine Alex euh s' est levée # tôt euh à sept heures le matin
'euh in contrast during the week Alex got up at 7 o'clock in the morning'
- *E04_LG: elle a joué au football aussi pendant les weekends
'she played football at weekends as well'
- *E07_LG: et elle est arrivée en retard en cours
'and she arrived late to lessons'
- *G08_LG: Alex a lu des livres
'Alex read books'
- *G07_LG: et elle est toujours arrivée très tard en cours
'and she always arrived very late to lessons'
- *G12_LG: elle a joué beaucoup au foot le weekend
'she played a lot of football during the week'
- *E04_AG: oui euh l'autre elle s'est levée très tôt
'yes euh the other one, she got up very early'
- *E01_AG: et elle est arrivée en retard en cours
'and she arrived late to lessons'
- *G13_AG: et ses leçons euh elle les a appris dans la nuit
'and her homework she did it late at night'
- *G18_AG: pendant la semaine Alex elle s' est levée tôt
'during the week, Alex got up early'

The examples above from *les soeurs* show that adverbials and adverbs are occasionally used with the PC in imperfective contexts. This is most notable with telic predicates, such as *arriver en retard en cours* ('arrive late to class') and *se coucher tard* ('sleep late'), where frequency adverbials such as *toujours* ('always'), *souvent* ('often') and *tous les jours* ('everyday') are most frequently observed. In addition, frequency adverbials with the PC in imperfective contexts are used more by German low group learners than any

other learner group. For example, with telic predicates 12 frequency adverbs are used by German low group learners, whilst English low group learners do not use frequency adverbs at all in the same contexts:

- *G07_LG: et à cette façon elle s' est couchée toujours très tard
'and this way she always went to bed very late'
- *G09_LG: et en fait <elle> [/] elle a toujours arrivé en retard en
cours
'and actually she always arrived late to lessons'
- *G13_LG: elle s' est levée toujours tôt
'she always got up early'
- *G15_LG: et elle est presque toujours arrivée en retard en cours
'she nearly always arrived late to lessons'
- *G19_LG: et elle s'est couchée très tard tous les jours
'and she went to bed very late every day'

A further difference between English and German low group learners concerns the use of frequency adverbials when marking imperfectivity in general: used by German low group learners, but not at all by English low group learners.

For the IMP in imperfective contexts in all tasks, learner groups differ significantly from NSs ($p < .001$). In the production tasks, differences are also found between learner groups: advanced group learners use the IMP significantly more than low group learners ($p < .001$). Furthermore, although there are no statistically significant differences between English-speaking and German-speaking low group learners for the IMP in *Natalie et Albert*, there are in *les soeurs*: English low group learners use the IMP significantly more than German low group learners ($p < .001$).

In the *Sentence Interpretation task*, habituality was investigated with telic and atelic situation types. With atelic situation types, German low group learners' select the IMP significantly more than the IMP with the atelic *manger* ('eat') and *entendre* ('hear') ($p < .05$), but not with the atelic *construire* ('build') and *avoir besoin* ('need'); whilst for these same predicates, English low group learners show no significant differences between selection of the IMP and the PC. However, with telic situation types in habitual

contexts, both low groups select the IMP significantly more than the PC ($p < .001$). These results show that low group learners are significantly more native-like with non-prototypical combinations (IMP and telic) than prototypical ones (IMP and atelic). Furthermore, it is unclear why German low group learners treat the atelic predicates *avoir besoin d'aide* ('need help') and *construire des hôpitaux* ('build hospitals') differently to *manger dans le parc* ('eat in the park') and *entendre le bruit* ('hear noise'), whilst English low group learners treat them the same. As noted in Chapter 5 (Tables 5.29 and 5.36), the IMP is used with both telic (non-prototypical) and atelic (prototypical) situation types:

- *E06_LG: il sortait
'he was going out/used to go out'
- *E12_LG: euh Natalie euh lisait à ses nounours
'euh Natalie was reading/used to read to her toys'
- *G01_LG: et elle faisait aussi du sport
'et she was also doing sport/used to also do sport'
- *G09_LG: il grimpeait sur les arbres
'he was climbing/used to climb in the trees'
- *E08_AG: ils rentraient chez elle ensemble
'they were going back/used to back home together'
- *E11_AG: euh il regardait des papillons
'and he was watching/used to watch butterflies'
- *G08_AG: et elle jouait avec ses copains
'and she was playing/used to play with her friend'
- *G17_AG: à la fin de la journée euh Natalie elle retrouvait son chat
'at the end of the day euh Natalie found her cat/used to find her cat again'

As imperfectivity also encompasses progressivity this was specifically investigated in the *Sentence Interpretation task*. In progressive contexts, English low group learners' selection of the IMP over the PC is significant ($p < .001$), whilst for German low group learners there are no consistently significant differences between selection of the IMP and the PC. English low group learners' selection of the IMP in progressive contexts is high with atelic situation types (94.7% with *lire* 'read', 84.2% with *jouer* 'play', *sortir* 'go out', and *préparer* 'prepare'), with no significant differences between them and NSs. However, for German low group learners with these same situation types, statistically

significant contrasts are found with NSs for all predicates except *lire* ('read') ($p < .05$). Therefore, English low group learners do not differ significantly from NS for atelic situation types in progressive contexts, whereas as German low group learners largely do. For telic situation types, differences also exist between English and German low group learners, with English low group learners either matching (*commencer* 'start') or outperforming (*gravir* 'climb' and *vendre* 'sell') German low group learners. For example, *vendre* ('sell') is used significantly more with the IMP than the PC by English low group learners ($p < .001$), but for German low group learners there is no significant difference between the IMP and the PC.

Overall, results from the *Sentence Interpretation task* in progressive contexts contrast with habitual contexts. Prototypicality as an independent variable cannot account for these differences because both contexts occur with telic (non-prototypical) and atelic (prototypical) situation types:

- English low group learners do not differ significantly from NSs in progressive contexts, but they do in habitual contexts.
- German low group learners differ significantly from NSs in both habitual and progressive contexts.
- English low group learners are significantly more accurate in progressive contexts than in habitual contexts.
- German low group learners are significantly more accurate in habitual contexts than in progressive contexts.

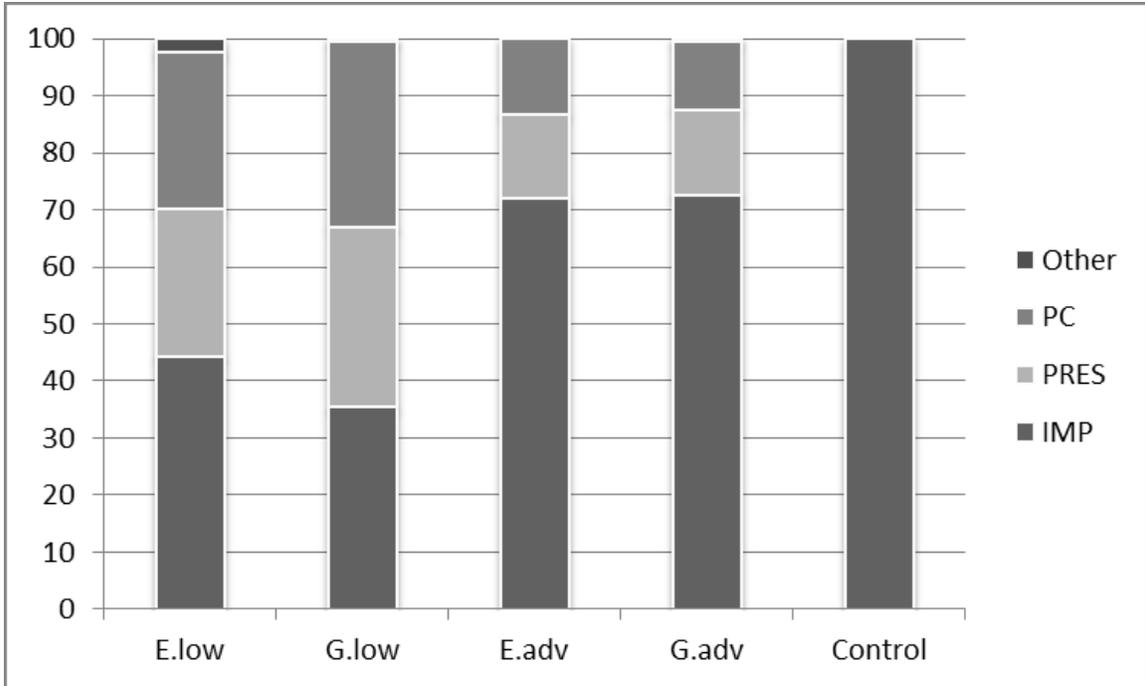
Comparisons for tense selection in habitual and progressive contexts reveal differences between low group learners that are attributable to L1 background differences: English speakers are consistently more native-like in progressive contexts and German speakers are more native-like in habitual contexts. However, in a very similar interpretation task

but for Spanish L2²³, Domínguez, Arche and Myles' (2011) results contrast with those from the present study. Firstly, they found no significant differences between their advanced English-speaking learners²⁴ and NSs in habitual and progressive contexts. However, in the present study, English low group learners did not differ significantly from NS in progressive contexts, but did in habitual contexts and German low group learners differed significantly from NS in both contexts. Secondly, Domínguez, Arche and Myles' (2011) advanced English-speaking learners were more accurate in selecting the Spanish Imperfect in habitual than progressive contexts, whilst in the present study English low group learners were more accurate in selecting the IMP in progressive than habitual contexts. Support that English speakers map progressivity to the IMP before habituality is also found by Howard (2005) and Labeau (2009a). Domínguez, Arche and Myles (2011) argue that their 'unexpected' results may be attributable to a task effect. They investigated three meanings (continuousness, habituality and progressivity), which are all conveyed by the Spanish Imperfect, but they claim that 'the differences between the progressive and continuous meanings may not be considerable enough to be detected by the test used in this study'.

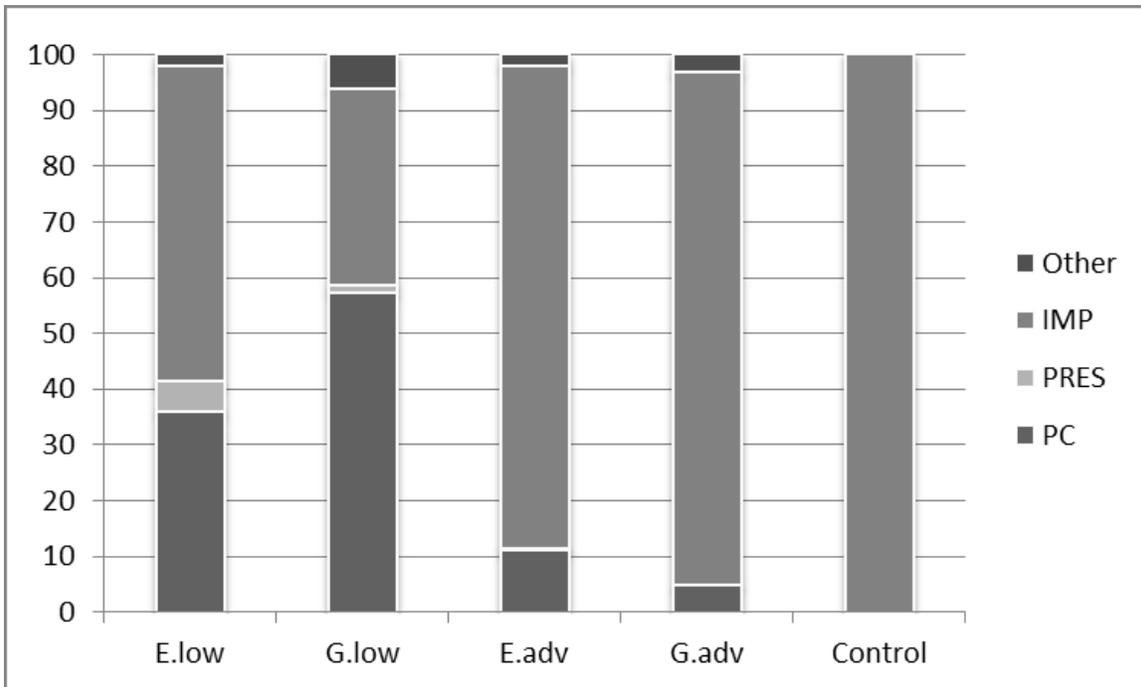
To summarise this section, Graphs 6.3 and 6.4 show how participants use tense in imperfective contexts in the spoken production tasks (for raw and percentage scores, see Chapter 5, Tables 5.19 and 5.24).

²³ The Sentence Interpretation task used in the present study is drawn from the one used by Domínguez, Arche and Myles (2011). See Chapter 4 for how these tasks differed.

²⁴ Largely equivalent to the English low group learners in the present study.



Graph 6.3: tenses used in imperfective contexts in *Natalie et Albert*



Graph 6.4: tense selection in imperfective contexts in *les soeurs*

6.2.3 Conclusions on viewpoint marking

This study's results have shown similarities and differences between learners and NS in the marking of viewpoint in perfective and imperfective contexts. English and German low group learners differ significantly from each other in both perfective and imperfective contexts, whereas advanced group learners do not. It was shown that greater significant differences between learner groups are found in imperfective contexts. For German low group learners, the PC is most frequently used in both perfective and imperfective contexts. Whilst English low group learners use the PC most frequently in perfective contexts and the IMP most frequently in imperfective contexts. Differences between English and German low group learners' use of tense in obligatory viewpoint contexts is argued to be because of L1 background differences. Because German low group learners use the PC most frequently in both perfective and imperfective contexts, it is suggested that for this group of learners viewpoint aspect is not mapped to tense. This explains why German low group learners largely use the same tense in both perfective and imperfective contexts. Furthermore, the implication of this claim is that German learners do not distinguish viewpoint aspectual contrasts with tense. In contrast, as English low group use the PC most frequently in perfective contexts and the IMP most frequently in imperfective contexts, it is claimed that for English low group learners, viewpoint aspect is mapped to tense.

Differences in how low group learners use tense in different viewpoint contexts in French L2 also appears to reflect their L1 form-meaning pairings for viewpoint aspect. As discussed in Chapter 2, English, French and German differ from each other in how viewpoint aspect is mapped. In English and French, viewpoint aspect is mapped to tense, whilst in German it is not. Instead, the German past tenses just mark past temporal reference. The ways in which the learner's L1 marks viewpoint aspect appears to account for how low group learners mark viewpoint aspect in the L2. For English low group learners, viewpoint aspect in French is mapped to tense (reflecting the English system); whilst for German low group learners, viewpoint aspect in French is not mapped to tense (reflecting the German system).

In this section, how viewpoint aspect is marked in French L2 has been discussed. The aim of the section was to highlight patterns on learners' use of tense in perfective and imperfective contexts. It has shown that not only do differences exist between advanced and low group learners, but also there are differences between low group learners of different L1 backgrounds. However, L1 background differences only show up in the low groups and not in the advanced groups. Advanced group learners' marking of viewpoint is remarkably similar despite differences in L1 background. The next section (6.3) specifically investigates L1 differences in the L2 development of viewpoint aspect in French L2 in the context of the hypotheses/predictions made in Chapter 4.

6.3 L1 background

In Chapter 4, differences between learner groups were predicted to arise due to initial transfer of L1 form-meaning pairings for viewpoint aspect. The L2 learning task is to determine how form-meaning pairings in the L1 compare to the L2. If the L1 and the L2 differ, then remapping of L1 form-meaning pairings is required. If learners are initially influenced by their L1 form-meaning connections (as Schwartz and Sprouse (1994, 1996) suggest), it can be predicted that due to differences in exposure to L2 input low group learners will be influenced more by their L1 than advanced group learners. Based on L1 form-meaning connections for viewpoint aspect, English low group learners were predicted to use tense to mark viewpoint aspect, whilst German low group learners were not. Instead, German low group learners were predicted to use a predicate's situation type for viewpoint interpretation. In Chapter 4, the following predictions were made for low group learners:

- English learners will initially map perfective viewpoint onto one form and progressive viewpoint onto a different form. Temporal and viewpoint information will be mapped to tense.
- German learners will not map viewpoint aspect to tense, but rely on a predicate's situation type for viewpoint interpretation (e.g. telic = perfective). Therefore, learners will initially map temporal reference to the PC and the IMP, but not

viewpoint aspect (reflecting their L1 system). Learners will not initially distinguish between the PC and the IMP for viewpoint aspect.

Form		Viewpoint		
		Perfective	Imperfective Progressive	Habitual
French speakers	Form-1	√	X	X
	Form-2	X	√	√
English speakers	Form-1	√	X	√
	Form-2	X	√	X
German speakers	Form-1	X	X	X
	Form-2	X	X	X

Table 6.1: Hypothesised initial form-meaning pairing outcomes for French L2

Following the discussion of viewpoint marking by the learners in the present study in section 6.2 with respect to L1 differences, the extent to which the results show support for the present study's predictions will now be discussed.

6.3.1 Group results

As the discussion of viewpoint marking has indicated, the predictions of initial transfer of L1 form-meaning pairings made for English low group learners are supported: their L2 form-meaning pairings for viewpoint aspect appear to reflect the L1 pairings. Results show that this group of learners largely use one tense in perfective contexts (the PC) and a different tense in imperfective contexts (the IMP), as predicted. Greatest evidence for L1 influence in English low group learners' IL grammar comes from the IMP in imperfective contexts. They use the IMP in progressive contexts to a significant extent, a context in which they are undistinguishable from NSs. However, in habitual contexts, they do not use the IMP to a significant extent, a context in which they differ significantly from NSs. In perfective contexts, English low group learners use the PC significantly more than the IMP. These results suggest that learners differentiate between the PC and the IMP for viewpoint aspect. It is argued that learners differ in their use of the IMP and the PC because they have mapped different viewpoint aspect meanings to

them. English low group learners' use of the IMP and the PC relates to their L1 form-meaning pairings for perfectivity and imperfectivity. They are most accurate in selecting the IMP in progressive contexts.

In their L1 (English), progressivity is mapped to a single form, representing a one-to-one form-meaning relationship. It is suggested that learners have transferred this form-meaning pairing to the IMP. This explains why they are significantly more accurate at using the IMP in progressive than habitual contexts and generally do not use it in perfective contexts.

Marking perfectivity appears more problematic than progressivity. This may be due to its form-meaning pairing in the English low group learners' L1. Perfectivity is mapped to the SP and, as discussed in Chapter 2, this form additionally conveys habituality. The SP therefore has two meanings mapped to it. It is suggested that learners have transferred this form-meaning pairing to the PC. This explains why they show fragility in using the PC in perfective contexts, because in their L1 this form does not have a one-to-one form-meaning relationship as it does in the L2.

Habituality appears to be the most problematic meaning for English low group learners. This is again argued to be so because of its form-meaning pairing in the L1. In Chapter 2, it was shown that *would* (e.g. I would write letters), the SP (e.g. I wrote letters), and the periphrasis *used to* (e.g. I used to write letters) all convey habituality. It is argued that learners have not yet transferred this form-meaning pairing to the L2, because although they show preference for the IMP, use of the PC is also relatively frequent. This explains why they show fragility in habitual contexts. In their L1, this meaning is conveyed in at least three different ways. Therefore, English low group learners' difficulty in the native-like use of tense to mark viewpoint aspect appears to directly relate to how these meanings are marked in the L1: accuracy in the L2 seems to relate reliably to L1 form-meaning pairings. The results suggest a correlation between accuracy in the L2 and L1 form-meaning complexity: less complex L1 form-meaning pairings are acquired earlier in

the L2 than more complex ones, leading to the following route of development for the pairing of meanings with forms in French L2 by English speakers:

- (1) Progressivity
- (2) Perfectivity
- (3) Habituality

The implications of these results suggest that difficulty arises when form-meaning differences exist between the L1 and the L2, as noted by Gabriele, Martohardjono and McClure (2003) and Domínguez, Arche and Myles (2011). It appears that it is easier to map one-to-one form-meaning relationships than many-to-one form-meaning relationships. The more meanings subsumed in a single form, the longer it takes to map them.

In addition, also supported are the predictions made for German low group learners: their L2 form-meaning pairings for viewpoint aspect appear to reflect their L1 pairings. The results show that German low group learners use one tense (the PC) in both perfective and imperfective contexts. It is argued that they do this because they do not reliably differentiate between the PC and the IMP in terms of viewpoint aspect (as English low group learners do). This is explained in terms of how viewpoint aspect is marked in their L1: it is not mapped to tense, but interpretable from lexical information (Bohnenmeyer and Swift, 2004). It is suggested that as a direct consequence of their L1, German low group learners use the PC and the IMP to mark past time reference and not past time reference *and* viewpoint aspect, as is the case in the L2. This claim is based on their frequent use of the PC in both perfective and imperfective contexts and difficulties in consistently selecting the IMP over the PC in progressive and habitual contexts.

In the production task results, German low group learners also showed a marked tendency to use adverbs with telic situation types in imperfective contexts. This is arguably so because in German a telic situation type conveys perfective viewpoint by default (Bohnenmeyer and Swift, 2004), so for an imperfective interpretation frequency adverbs (e.g. *always, often*), for example, are required to coerce an imperfective

viewpoint interpretation with telic situation types. Note that English low group learners did not use any frequency adverbs in imperfective contexts. Furthermore, the consistent use of the PC (composed form) over the IMP (simple form) can be explained in how different forms are used in German. The simple form (Preterit) is little used in spoken German, whereas the composed form (Perfekt) is. This is reflected in their use of tense in this study, where the composed form (the PC) is used most in both tasks, irrespective of viewpoint context. Therefore, as found for English low group learners, German low group learners' difficulty in the native-like use of tense to mark viewpoint aspect directly relates to how it is marked in their L1. In German low group learners' IL grammar, the PC and the IMP are initially used to mark past time reference, not viewpoint aspect.

As noted in Chapter 5 and the discussion on viewpoint marking in section 6.2, advanced group learners differ significantly from low group learners in their form-meaning pairings for viewpoint aspect. However, English and German advanced group learners do not differ significantly from each other. The results indicate that advanced group learners have mapped viewpoint aspect to tense in French L2.

For English advanced group learners, viewpoint aspect appears to be mapped to tense (as found for English low group learners). The results show that learners use one tense in perfective contexts (the PC) and a different tense in imperfective contexts (the IMP). In contrast to English low group learners, advanced group English-speaking learners use the IMP in both habitual and progressive contexts. In *les soeurs*, English and German advanced group learners do not differ significantly from NSs in the use on the IMP in habitual contexts. This study's results suggest that English advanced group learners differentiate between the PC and the IMP. It is argued that learners differentiate their use of the IMP and the PC because they have mapped different viewpoint aspect meanings to them. However, for this group of learners, tense use does not relate directly to their L1. The frequent use of the IMP in habitual contexts indicates that habituality has been remapped to the IMP. This use of the IMP differs significantly from English low group learners, as discussed in section 6.2. Results for English advanced group learners

therefore indicate that the reconfiguration of L1 form-meaning pairings in the L2 is possible when the L1 and the L2 differ in how they mark viewpoint aspect.

German advanced group learners appear to perform similarly to English advanced group learners: their L2 form-meaning pairings for viewpoint aspect do not appear to reflect their L1. Results show that German advanced group learners use one tense (the PC) in perfective contexts and a different tense (the IMP) in imperfective contexts. In contrast to German low group learners, then, advanced group German speakers appear to use tense to mark both viewpoint aspect and past temporal reference. In other words, German advanced group learners appear to differentiate between the PC and the IMP. It is argued that learners differentiate in their use of the IMP and the PC because they have mapped different viewpoint aspect meanings to them. Tense use, therefore, does not relate directly to their L1. The frequent use of the PC in perfective and the IMP in imperfective contexts indicate that viewpoint aspect has been mapped. There is no longer a heavy reliance on adverbials. Results for German advanced group learners therefore indicate that the reconfiguration of L1 form-meaning pairings in the L2 is possible when the L1 and the L2 differ in how they mark viewpoint aspect.

6.3.2 Individual results

Group results can sometimes hide very different grammars in different learners (e.g. Montrul and Slabakova, 2002, 2003; Slabakova and Montrul, 2002, 2003), so individual results are useful in this respect. The contrasts between the meanings attributed to tenses (PC, PRES and IMP) in individual learners' grammars have to be demonstrated in order to draw credible generalizations on L2 development. Paired-samples t-tests were carried out on each participant comparing use of the IMP, the PRES and the PC in habitual, perfective and progressive contexts. Table 6.2 presents significant contrasts ($p < .05$), found for tense selection in habitual, perfective and progressive contexts for all participants. It shows the contexts in which individuals use the IMP, the PC and the PRES.

	Perfective			Progressive			Habitual		
	IMP	PC	PRES	IMP	PC	PRES	IMP	PC	PRES
English low (n=19)	3	14	2	18	2	0	11	6	2
German low (n=19)	1	16	2	11	8	0	6	10	3
English advanced (n=19)	0	19	0	19	0	0	19	0	0
German advanced (n=18)	0	18	0	18	0	0	18	0	0
Control (n=6)	0	6	0	6	0	0	6	0	0

Table 6.2: Tense use in habitual, perfective and progressive contexts

Table 6.2 builds on the group results already presented. It shows that all NSs and advanced group learners differentiate between the IMP and the PC by their use in different viewpoint contexts. All NS and advanced group learners use the IMP in imperfective contexts (habitual and progressive) and the PC in perfective contexts. Significant differences are indicated between advanced group learners and low group learners, as also indicated in the group results. In perfective contexts, the majority of English low group (n=14, 73.7%) and German low group (n=16, 84.2%) learners use the PC in perfective contexts. However, there are learners in these low groups who also use the PC and the PRES significantly more than the PC. In habitual contexts, low group learners are significantly different from each other in the tenses they use, as already noted in the group results. Significantly more learners in the German low group use the PC (n=10, 52.6%) more than the IMP (n=6, 31.6%), whereas there are significantly more English low group learners who use the IMP (n=11, 57.9%) more than the PC (n=6, 31.6%). In progressive contexts, more learners use the IMP over the PC than in habitual contexts. As noted in the group results, English low group learners are not significantly different from NSs for use of the IMP in progressive contexts, whereas German low group learners are. For learners in the English low group, nearly all learners use the IMP (n=18, 94.7%) instead of the PC; whilst for German low group learners 11 (57.9%) use the IMP and 8 (42.1%) use the PC in progressive contexts. These individual results support the group results in showing that English low group learners are most accurate in

progressive contexts, followed by perfective and habitual contexts. The individual results also clearly show that the majority of German low group learners use the PC appropriately in perfective contexts. However, as already discussed in the group results, while a significant number of German low group learners also use the PC in imperfective contexts (e.g. 10 learners in habitual contexts), the majority of German low group learners do not differentiate between the PC and the IMP in terms of viewpoint aspect.

6.3.3 Conclusions on L1 background

L1 differences for viewpoint expression (as discussed in Chapter 2) appear to be able to account for the low group learners' differences in viewpoint expression in French. In a comparison of imperfective forms in French and English, it was noted in Chapter 2 that whilst the IMP marks continuousness, habituality, and progressivity, the SP only marks one of these: progressivity. Domínguez, Arche and Myles (2011) argue that 'the meaning which needs semantic-morphology remapping seems to be the most problematic meaning', which is supported in the present study. English low group learners show stability in using the IMP to mark progressivity but not habituality. This is arguably because habituality needs mapping but progressivity does not. German low group learners indicate difficulty in marking habituality and progressivity with the IMP because both meanings require remapping. Therefore, it is claimed that when differences exist in how the L1 and the L2 express meaning, it is these L1-L2 differences that constitute difficulties in L2 development. L1-L2 differences in form-meaning pairings are argued to explain the L2 developmental differences between English and German low group learners. Overall, then, these results are consistent with the claim that L2 development is initially influenced by the learner's L1 (full transfer). Low group learners struggle with L2 form-meaning pairings that differ from their L1. Results from advanced group learners show that as L2 proficiency increases, L2 form-meaning pairings develop and stabilise irrespective of L1 background. However, this study's results contrast with Montrul and Slabakova's (2002, 2003) findings in concluding that statistically significant differences between advanced group learners and NS still exist. In this respect, the present study's findings corroborate Domínguez, Arche and Myles' (2011) findings. As

advanced learners still differ from NSs in how they mark viewpoint aspect, especially in cases where L1 form-meaning pairings require reconfiguration in the L2 (e.g. mapping habituality to the IMP), further research with more proficient learners is required in order to ascertain whether the reconfiguration of L1 form-meaning connections in the L2 is always successful. Along with Domínguez, Arche and Myles (2011), the present study suggests that it is not.

6.4 Prototypicality

Predictions from the AH (cf. Chapter 4) were adopted for the present study to account for the role of semantic prototypes in the L2 development of viewpoint aspect. The AH predicts that L2 development is characterised by combining prototypes of viewpoint and situation type, developing from the most prototypical to non-prototypical combinations. For instance, the AH predicts that perfective past (i.e. the PC) is first combined with telic situation types and then as proficiency increases the PC is used increasingly more with atelic situation types. Furthermore, the AH predicts a linear route of L2 development: prototypical → non-prototypical. The AH's predictions for the L2 development of viewpoint aspect, as presented in Chapter 4, are as follows:

- Learners first use perfective marking [the PC] on achievement and accomplishment verbs, eventually extending its uses to activities and stative verbs.
- In languages that encode the perfective/imperfective distinction, imperfective past [the IMP] appears later than perfective past [the PC], and imperfective past marking begins with stative verbs and activity verbs, then extending to accomplishment and achievement verbs.

(Andersen and Shirai, 1996:533)

Following the discussion of viewpoint marking by the learners in the present study in section 6.2 with respect to prototypicality, the extent to which the results show support for the present study's predictions will now be discussed.

6.4.1 Group results

The results in Chapter 5 show that in contrast to NSs, learners' selection of viewpoint is prototypically influenced by a predicate's situation type. Learners select the PC significantly more with telic than atelic situation types, as predicted by the AH. The results from *Natalie et Albert*, as a key example, show that all learners show a statistically significant prototypical influence for the PC with telic situation types in perfective contexts, but this is less significant for English low group learners ($p < .05$) than German low and advanced group learners ($p < .001$). Furthermore, for English low group learners, there is no significant difference between selection of the PC over the IMP with telic situation types in *les soeurs*, but significant differences are found for German low group ($p < .05$) and advanced group learners ($p < .001$). Results show that advanced group learners are affected significantly more by semantic prototypes than low group learners.

As this study is not based on beginner learners, conclusions on the PC emerging before the IMP cannot be drawn. However studies based on beginners (e.g. Comajoan, 2006; Véronique, 1987) indicate that perfective past marking emerges before imperfective past, consistent with the AH. What the results from the present study do show, however, are significant prototypical combinations over non-prototypical combinations. The analysis firstly showed the tenses learners used to mark viewpoint, then further analyses showed significant situation type influence on tense selection. In other words, the tenses learners used were prototypically influenced by the inherent semantics of their predicates. If, as the AH suggests, prototypicality 'extends' to non-prototypicality as L2 proficiency increases, then the results should show that low group learners are influenced more by semantic prototypes than advanced group learners (as found by Comajoan, 2006). Furthermore, advanced group learners should show greater use of non-prototypical combinations than low group learners. In light of the results (Chapter 5) and the discussion on L1 background (section 6.3), the present study's results do not support the AH's predictions. In contrast to the AH, this study's results correlate increased L2 proficiency with increased prototypical influence. In other words, as L2 proficiency increases so does prototypical influence. The present study's results with respect to the

AH are consistent with findings from Labeau (2005), Robison (1990, 1995) and Salaberry (1999).

An unexpected significant correlation in the data, however, shows that advanced group learners are consistently influenced by semantic prototypes, whereas low group learners are not. For instance, in the *Sentence Interpretation task*, there are no significant differences between learner groups for tense selection. However, when tense selection is analysed according to situation type, advanced group learners' use of the PC instead of the IMP with telic situation types in imperfective contexts is significantly different ($p < .001$), whilst low group learners' use of this same tense is not. Therefore, in the interpretation task, whilst low group learners do not significantly differ from advanced group learners in the tenses they use, they significantly differ in the situation types they combine with these tenses. In imperfective contexts, advanced group learners' use of prototypical PC-telic combinations (over IMP-telic) are just as statistically significant as IMP-atelic (over PC-atelic) ones, whereas for low group levels no statistically significant prototypical combinations are found. The question is: why does prototypicality significantly affect advanced group learners more than low group learners? According to the AH, prototypicality should affect low group learners more than advanced group learners - converse to the present study's findings. Before looking in more detail at this question, individual results for prototypicality will be discussed.

6.4.2 Individual results

The individual results in section 6.3 showed the contexts (habitual, perfective and progressive) in which individuals use the IMP, the PC and the PRES. For prototypicality, the use of the IMP and PC with telic and atelic situation types has to be demonstrated in order to draw credible generalizations on L2 development. Paired-samples t-tests were carried out on each participant comparing use of the IMP and the PC with atelic and telic situation types in perfective and imperfective contexts. Table 6.3 presents significant contrasts ($p < .05$) found for tense selection according to situation type for all participants. It shows the situation types in which individuals use the IMP and the PC, in particular

participants who are significantly influenced by prototypical combinations (IMP-Atelic and PC-telic) (Yes) and those who are not (No).

	Perfective				Imperfective			
	Atelic		Telic		Atelic		Telic	
	Yes	No	Yes	No	Yes	No	Yes	No
English low (n=19)	10	9	15	4	9	10	4	15
German low (n=19)	9	10	17	2	10	9	6	13
English advanced (n=19)	8	11	18	1	16	3	7	12
German advanced (n=18)	8	10	18	0	15	3	7	11
Control (n=6)	0	6	0	6	0	6	0	6

Table 6.3: Prototypical influence in participants' use of tense

The individual results build on the group results presented in Chapter 5 and discussed so far. They show that although there is variability in prototypical combinations in different tasks, the overall group results still hold up when individual analyses are carried out: advanced group learners show greater use of prototypical combinations than low group learners. Overall, fewer English low group learners use prototypical combinations than any other learner group. The finding with reference to viewpoint context is also maintained: there is greater prototypical influence in perfective than imperfective contexts for low group learners but not for advanced group learners. In imperfective contexts, fewer English low (n=9, 47.4%) and German low group learners (n=10, 52.6%) show use of IMP-atelic combinations than English advanced (n=16, 84.2%) and German advanced group learners (n=15, 83.3%).

It is arguable that prototypicality strengthens with proficiency because more proficient learners have generally had more exposure to L2 input than less proficient learners. However, as mentioned in section 6.4.1, the use of prototypical combinations is entirely dependent on what learners use tense for. If prototypicality influences L2 development as

the AH proposes, then PC-telic and IMP-atelic combinations require viewpoint aspect to be mapped to the PC and the IMP. This claim is substantiated by the finding that in the low groups statistically significant prototypical combinations (in particular PC-telic combinations) are not found in imperfective contexts. The discussion in section 6.2 and the results in Chapter 5 show that low group learners show variability in the use of tense in imperfective contexts, indicating that they have not yet mapped imperfectivity to the IMP. Yet, prototypical combinations are found in perfective contexts. This appears to be because there is greater stability in the mapping of perfectivity to the PC. Although the AH predicts that prototypicality will initially influence L2 development, it can also be stated that the AH can be used to judge whether learners have mapped viewpoint aspect to tense. Advanced group learners use prototypical combinations in both perfective and imperfective contexts (PC-telic and IMP-atelic) because they appear to have mapped perfectivity to the PC and imperfectivity to the IMP. In short, the route of L2 development as predicted by the AH is entirely dependent on the PC and the IMP marking viewpoint aspect. At no point, however, is the reconfiguration of L1 form-meaning pairings in the L2 discussed by Andersen and Shirai (1994, 1996). Shirai (2010:172) claims that ‘although there is no consensus regarding the explanation for such semantic bias [prototypical combinations], this phenomenon has been attested in various languages’. It is argued that when L1-L2 form-meaning differences for viewpoint aspect are analysed, then clear predictions for prototypical influence can be made. Crucially, as the present study’s results attest, the use of prototypical combinations is entirely dependent on the mapping of viewpoint aspect to tense.

As discussed in Chapter 4, Andersen and Shirai (1994, 1996; Shirai, 2009, 2010) see the AH as a theory of L2 development rooted in part on semantic prototypes and in part on input frequency prototypes. That said, the AH founders seem to argue that prototypical combinations are largely due to the frequency of prototypes in the input:

In earlier work, I have proposed prototype formation based on distributional learning as an explanation for the semantic bias in early tense-aspect morphology, and in other aspects of grammatical development [...] In short, the semantic bias comes from biased frequency distribution in the input and learners' prototype formation based on such biased input

Shirai, 2010:184-6

It is plausible (although as yet unverified) to assume that semantic prototypicality is more frequent in the input than semantic non-prototypicality, therefore studies (such as this one) find correlations between semantic prototypicality and high L2 proficiency. Indeed Hendricks (1999) also argues that prototypical combinations reflect a distributional bias in the input. However, it is open to debate to what extent 'biased frequency distribution in the input' can account for this apparently universal route of L2 development, especially as this route of inquiry has not been actively investigated. This is especially the case when learners' exposure to the L2 can vary substantially (Gass, 2003; Gass and Mackey, 2007; VanPatten, Williams and Rott, 2004). In which case, learners will not necessarily be exposed to the same prototypical combinations. Despite such a large number of studies on the AH (for an extensive review, see Bardovi-Harlig, 2000), researchers are no wiser as to why prototypicality strengthens as proficiency increases. The link between frequency and semantic prototypicality is arguably very relevant for such an understanding. However, this link is often implicitly assumed rather than empirically verified. A relevant correlation in this study is the difference between learner groups in terms of their declared exposure to French in a naturalistic setting. Advanced group learners declared more time spent abroad than low group learners (see Chapter 4) and show significantly greater prototypical effects. Further research is required on the connection between time spent abroad and the use of prototypical combinations: does more time spent abroad increase prototypical effects? In order to investigate this relationship, research is required to document the types of input learners are exposed to in naturalistic settings. The present study's results tentatively point to a close relationship between L2 proficiency, prototypicality and time spent abroad. Further research is required to specifically investigate the relationships between these variables.

As noted in Chapter 3, there is empirical support that L2 development with reference to prototypicality is not linear (e.g. Bardovi-Harlig and Bergström, 1996; Labeau, 2005;

Robison, 1995; Salaberry, 1999). Perhaps the low group learners in this study are too proficient to show stronger prototypical combinations than the advanced group learners, in which case L2 development could be hypothesised to be more U-shaped than linear (Lightbown, 1985, 2003; Kellerman, 1985; Long, 1990). Labeau (2005) analogises the L2 development of viewpoint aspect with the swinging of a clock pendulum. In this ‘pendular movement’ of L2 development, Labeau (2005:229) seems to refer to learners’ fragility: ‘form-function mappings are tested, which results in overgeneralization and development of IL rules, which are more and more finely tuned until they approach native usage’. The constant refining or restructuring of learners’ hypotheses on the L2 certainly indicates a non-linear route of development. In which case, in its current form, the AH arguably fails to reliably typify L2 development and this appears to be acknowledged by Shirai (2004):

[The AH] is supported by most studies, but its developmental component – namely, the prediction that beginning learners are more restricted by inherent aspectual value than more advanced learners – may need to be revised

(Shirai, 2004:106)

The present study offers empirical support for a revision of the AH’s ‘developmental component’. This is clearest as this study’s results show that prototypicality increases with proficiency. However, Shirai (2004) also argues that the extent to which the AH supports L2 development is dependent on studies’ methodologies. He claims that production data produce results ‘that often go against the AH’, whilst ‘paper-and-pencil tests often show patterns consistent with the hypothesis’ (Shirai, 2004:91), suggesting that the AH is most compatible with judgement and interpretation tasks and not production tasks. In contrast to many studies on the L2 development of viewpoint aspect (as reviewed in Chapter 3), the present study avoided *Modern Times* because it has been argued to prevent equal expression of prototypical and non-prototypical combinations and instead favours the prototypical (Bardovi-Harlig, 2000; Bardovi-Harlig and Bergström, 1996). This study’s research design (along with Domínguez *et al.*, 2009; Domínguez, Arche and Myles, 2011) allowed for equal expression of both prototypicality and non-prototypicality to test previous studies’ findings. Another contentious issue for the AH is how to deal with claims that it is a universal theory of L2 development (e.g.

Shirai and Kurono, 1998). Shirai contends that ‘the universal claim needs to be modified’ (Shirai, 2004:107), however at the same time he sees the AH’s predictions as valid:

The AH can still be treated as a universal tendency which most learners follow, and the position here is that the prediction is still valid in the sense that it predicts semantic development of tense-aspect morphology, which may or may not be directly reflected in spontaneous production

(Shirai, 2004:107)

It is argued here that if the AH’s predictions are not empirically supported (i.e. not reflected in spontaneous production) then its claim for universality rings hollow. How can the AH be a valid theory of L2 development if it fails to convincingly predict actual patterns of L2 development? The results from the present study indicate that prototypicality increases with proficiency. However, this developmental pattern is not claimed to be due to a ‘distributional bias in the input’. Instead, the pattern of L2 development found in this study appears to correspond to how viewpoint aspect is initially marked in the L1. Prototypical combinations are only consistently observed when viewpoint has been mapped to tense, as found for the advanced group learners. Low group learners showed no statistically significant use of prototypical combinations in imperfective contexts because, as the results show, they show variability in the tenses they use in imperfective contexts (IMP, PC and PRES). As will be discussed in section 6.5, refinements to the AH could be made. However, while it appears that the AH is correct in predicting prototypical influence, refinements should deal with integrating the role of L1 form-meaning connections and prototypicality into one theory of L2 development.

6.5 Theoretical implications for L2 development

This chapter along with the results in Chapter 5 have drawn out three specific differences between the study’s participants for the use of tense in perfective and imperfective contexts: (1) NSs differ significantly from learners, (2) advanced group learners differ significantly from low group learners, and (3) English low group learners differ significantly from German low group learners. It has been argued that these differences

are due to the influences of L1 background and prototypicality on L2 development. However, although the discussion of the results has indicated that L1 background and prototypicality affect all the learner groups, learners are affected to different extents. Firstly, English-speaking and German-speaking low group learners perform significantly differently from each other in their use of tense in perfective and imperfective contexts, whereas English-speaking and German-speaking advanced group learners do not differ significantly from each other. For the L2 development of viewpoint aspect, this study's results show that initial L1 influence significantly affects the L2 development of viewpoint aspect. This claim could otherwise be stated as follows: the influence of L1 background on the L2 development of viewpoint aspect reduces as proficiency increases. Secondly, advanced group learners use significantly more prototypical combinations (PC-telic and IMP-atelic) than low group learners. Low group learners show significant prototypical influence in perfective contexts. However, advanced group learners show significant prototypical influence in both perfective and imperfective contexts. Therefore, contrary to the AH, this study's results show that prototypicality strengthens as proficiency increases.

Ayoun and Salaberry (2005) and Schell (2000) argue that L1 influence and prototypicality influence L2 development in two specific ways:

More specifically we propose that, during the beginning stages of development, L1 English speakers learning a Romance language are guided by tense considerations, as exemplified in their L1. Later on, as they develop a larger database in the target language, they begin to be more clearly guided by the distribution of past tense markings according to lexical aspectual classes

(Ayoun and Salaberry, 2005:268)

Low group learners' L2 development is significantly affected by L1 background. At this stage of development, learners have to deal with how the L1 and the L2 configure form-meaning pairings: are the pairings the same or different?

For German speakers the reconfiguration of L1 form-meaning pairings involves mapping viewpoint aspect to tense. English speakers already map viewpoint to tense in their L1,

their learning task is reconfiguring meanings with forms: habituality and progressivity have to be mapped to a single form (see Chapter 2).

Advanced group learners' L2 development is significantly affected by prototypicality. At this stage of development, L2 form-meaning pairings appear well developed. There is consistent use of one tense in perfective contexts (PC) and a different tense in habitual and progressive contexts (IMP). Therefore, once viewpoint aspect has been mapped to tense, prototypicality appears to significantly influence L2 development. This leads to learners using semantically prototypical combinations between viewpoint and situation types. In French L2, significant prototypical combinations found in the data are: the IMP with atelic situation types and the PC with telic situation types. Therefore, this study's results support Ayoun and Salaberry's (2005) and Schell's (2000) claims that L1 background and prototypicality exert clear influences on L2 development.

Furthermore, the present study sheds new light on Ayoun and Salaberry's (2005) theorised stages of L2 development in three specific ways. Firstly, it extends the L2 acquisition of a Romance language beyond English L1 to include German L1. Secondly, there is empirical support that L1 background and prototypicality influence L2 development at different levels of proficiency. It was argued in sections 6.3 and 6.4 that in order for prototypicality to influence L2 development, viewpoint aspect has to be mapped to tense. This appears to be an essential condition for semantically prototypical combinations to be made. The consistent use of the PC in perfective contexts and the IMP in imperfective contexts by advanced group learners is mirrored by statistically significant prototypical combinations. Variability of tense use by low group learners in imperfective contexts results in no statistically significant prototypical combinations. This study's results provide evidence to support the claim that prototypicality influences L2 development after viewpoint aspect has been mapped to tense. Finally, the present study refines Ayoun and Salaberry's (2005) proposal on L1 influence, suggesting that learners transfer L1 form-meaning pairings for viewpoint aspect. This may not necessarily be 'tense considerations'. Individual and group results show that German low group learners use the PC significantly more than any other tense in both perfective and

imperfective contexts (see Chapter 5 in addition to section 6.3). They do not appear to use tense to differentiate between perfectivity and imperfectivity. English low group learners do use tense for marking aspect (as in their L1), but remapping is required. This is observed from their fragile use of the PC in perfective contexts and the use of the PC in habitual contexts. It was argued in section 6.3 that English-speaking learners of French L2 map their L1 form-meaning pairings of the SP (perfectivity and habituality) onto the PC. This results in English low group learners initially using the PC in habitual contexts (see Chapter 5).

Ayoun and Salaberry base their proposal on English-speaking learners of French and Spanish L2, which are languages in which viewpoint aspect and time reference are mapped to tense (see Chapter 2). Tense is indeed an important factor to take into account, but the bigger picture for the L2 development of viewpoint aspect must seriously consider how viewpoint aspect is marked in the L1. As noted in Chapter 3, SLA research has revisited a previously abandoned contrastive analysis approach by systematically comparing languages in how they mark a particular linguistic property (Lardiere, 2007, 2009). Furthermore, in languages that do map viewpoint to tense (e.g. English, French), the present study has proposed that by systematically comparing the L1 and the L2 in terms of form-meaning relationships, predictions can be made in terms of the reconfiguration of L1 form-meaning connections in the L2. The implications of these results for L2 development suggest that difficulty arises when form-meaning differences exist between the L1 and the L2. It appears that it is easier to remap one-to-one form-meaning relationships in the L2 than many-to-one form-meaning relationships. The more meanings subsumed in a single form, the more difficult it is to remap them.

What can be concluded for L1 influence on the L2 development of viewpoint aspect? Full L1 transfer in initial L2 development as proposed by Schwartz and Sprouse (1994, 1996) is consistent with the findings from the present study. White (2007) states that different language properties may have longer lasting L1 effects than others. L1 effects for White appear to correlate with the L2 input:

L1 effects may be quite fleeting in some cases but lasting in others. Depending on the L1 and the L2 in question, triggering input may motivate resetting to the L2 value extremely early [...] In contrast, if the L2 input does not provide suitable positive evidence to motivate resetting, transfer effects will be much longer lasting, maybe even permanent

(White, 2007:51)

For viewpoint aspect, L1 effects on L2 development appear to influence development even at the advanced stages of L2 acquisition, as found in this study on university learners of French. Exposure to the L2 in a naturalistic environment appears to have facilitated the reconfiguration of L1 form-meaning pairings in the L2, but there are still significant differences between learners and NSs. The current study has shown that learners can reconfigure meanings when L1-L2 differences exist, although learners' form-meaning pairings still appear to differ from NSs. The current study has also shown that whilst initial L1 effects for viewpoint aspect reconfiguration are visible, their effects reduce as proficiency increases. It appears that at least for the L2 development of viewpoint aspect by English and German learners of French, L1 effects are not visible in the advanced groups. However, the extent to which the reconfiguration of L1 form-meaning pairings in the L2 is always successful requires further research.

This study's results also point to a route of L2 development different to that predicted by the AH. As noted in Chapter 3, the AH is a data-driven hypothesis for L2 development. Its predictions are based on the observations of language use from a very small number of L2 learners, which since its original proposal has undergone little substantive revision in light of studies testing its predictions. This study's results and statistical analyses do not support the AH. This is because the results show that the most proficient learners (advanced group learners) are influenced significantly more by prototypicality than less proficient learners (low group learners). Furthermore, low group learners show greater use of non-prototypical pairings than advanced group learners. Therefore, the current study's results indicate a route of L2 development opposite to that predicted by the AH. This different route of L2 development (i.e. increased use of prototypical pairings with increased proficiency) may be explainable by considering the role of the L1 in forming L2 form-meaning pairings. The results indicate that low group learners are strongly influenced by their L1 form-meaning pairings for viewpoint aspect. Consequently, low

group learners' use of tense to mark viewpoint reflects their L1. This is best demonstrated by German low group learners' production, where they use the PC in both perfective and imperfective contexts. The use of the PC in both viewpoint contexts indicates that viewpoint aspect is not mapped to tense (as is the case in German). Unless viewpoint has been mapped to tense it remains difficult to see how viewpoint and situation types prototypes can be paired (although this is the assumption made by the AH). This reasoning explains why English low group learners show prototypical influence in perfective contexts but not in imperfective contexts: perfectivity has been mapped in the L2 but imperfectivity has not. It therefore becomes much clearer to understand why advanced group learners are prototypically influenced in both perfective and imperfective contexts: both perfectivity and imperfectivity have been mapped in the L2. Therefore viewpoint mapping in the L2 is an essential condition for prototypical influence to take effect (as demonstrated in the advanced group data). The implication for the AH that follows is therefore: the role of the L1 in forming L2 form-meaning pairings for viewpoint aspect has to be considered. Prototypical influence appears only to influence L2 development after viewpoint aspect has been mapped in the L2. This finding not only indicates two stages for the L2 development of viewpoint aspect, but importantly that L1 influence can be overcome.

6.6 Conclusion

This chapter has discussed the predictions made in Chapter 4 on the L2 development of viewpoint aspect in French L2. It has been highlighted that L1 background and prototypicality significantly influence the L2 development of viewpoint aspect. However, it has been argued that viewpoint aspect has to be reconfigured in the L2 in order for prototypical combinations to be made. The reconfiguration of L1 form-meaning pairings in the L2 is therefore an essential condition. Low proficiency learners are affected more by L1 background than prototypicality, whilst high proficiency learners are affected more by prototypicality than L1 background. Furthermore, L1 background influence can be predicted through a contrastive analysis of how viewpoint aspect is marked in the L1 and

the L2. This study has shown that learners initially transfer their L1 form-meaning pairings for viewpoint aspect.

Chapter 7 presents this study's conclusion, including a summary of this study's main findings. Limitations and areas for future research are also discussed.

Chapter 7. Conclusion

This thesis set out to investigate the development of aspect in a L2. More specifically, it investigated the role of learners' L1 in the L2 development of viewpoint aspect with particular reference to L1-L2 differences and prototypicality. L1-L2 differences for viewpoint aspect reside in cross-linguistic variation in terms of how universal aspectual information is mapped in the L1 compared to the L2. This study investigated the acquisition of viewpoint aspect in French L2 by English-speaking and German-speaking learners. It was designed to investigate two independent variables: (a) L1 influence by comparing learners of different L1 backgrounds learning the same L2; and (b) L2 development by comparing learners from different levels of proficiency. In a cross-sectional study design, English-speaking and German-speaking learners of French L2 were selected at two significantly different levels of proficiency.

In Chapter 2, different theories of aspect were reviewed and discussed, with particular reference to the conceptual independence of situation aspect from viewpoint aspect. This was an important theoretical foundation for this thesis because of the languages under study which all differ in how they mark viewpoint aspect. It was highlighted that some bidimensional theories of aspect (e.g. Borik, 2002, 2006; Giorgi and Pianesi, 1997) assume a very close relationship between aspectual morphemes and viewpoint aspect, referred to as the 'morphological bet' (Bertinetto and Bianchi, 2004). As discussed in Chapter 2, what is problematic for many bidimensional theories of aspect is how to account for viewpoint aspect in languages absent of aspectual morphemes. German presents a problem for many bidimensional aspect theories because it lacks aspectual morphemes. Following Bohnemeyer and Swift (2004) and Smith (2006), it was argued that languages devoid of aspectual morphemes (like German) are still able to convey viewpoint aspect due to discourse pragmatics. The languages selected for investigation in this thesis not only differ in how they mark viewpoint aspect, but there are also differences between languages with aspectual morphemes (English and French) and languages absent of aspectual morphemes (German). A contrastive analysis of languages

was used to formulate predictions for L1 influence in the L2 development of viewpoint aspect in Chapter 4.

Chapter 3 built on the discussion of aspect in Chapter 2 and critically reviewed the SLA aspect literature, focusing, in particular, on L1 influence and prototypicality in L2 development from both theoretical and empirical perspectives. The chapter's discussion indicated that initial L1 transfer is initially prevalent in the L2 development of viewpoint aspect: learners' initially transfer their L1 form-meaning pairings for viewpoint aspect to the L2. However, in support of Lardiere (2005, 2007, 2009), many studies document that despite initial L1 influence in L2 development, reconfiguration of existing L1 form-meaning pairings is possible in an L2 (Domínguez, Arche and Myles, 2011; Gabriele, 2009; Gabriele, Martohardjono and McClure, 2002, 2003; Montrul and Slabakova, 2002, 2003). Although in contrast to Montrul and Slabakova (2002, 2003), Domínguez, Arche and Myles (2011) questioned the extent to which the reconfiguration of L1 form-meaning pairings in the L2 is always successful.

The study's methodology was presented in Chapter 4, which detailed the study's research questions, predictions, participants and data-collection procedure. Following the review of SLA aspect studies in Chapter 4, the presented study aimed to obviate the shortcomings of some previous studies' use of very small learner groups, lack of inferential statistical methods, prototypically-skewed data-collection methods, and a lack of independent proficiency measures. Following Domínguez, Arche and Myles (2011) a triangulated methodology was implemented specifically designed by the SPLLOC research team to investigate semantic prototypicality and non-prototypicality in equal measure with elicited production (*les soeurs* and *Natalie et Albert*) and experimental (*Sentence Interpretation task*) data-collection procedures.

This study's results were presented in Chapter 5, which showed similarities and differences between learners and NSs in the use of tense in perfective and imperfective contexts. Differences were also found between (a) learners at different proficiency levels and (b) learners at the same proficiency level but of different L1 backgrounds.

The results show that the L2 development of viewpoint aspect is significantly affected by (a) L1 background and (b) prototypicality. The following bullet points summarise the study's main findings:

General results

- All learner groups show preference for the PC in perfective contexts.
- Advanced group learners and low group learners are significantly different from each other with respect to tense selection in imperfective contexts.
 - Advanced group learners show preference for the IMP
 - Low group learners use a mix of the PC, the IMP, and the PRES.

L1 background

- English and German low group learners are significantly different from each other for tense use in perfective and imperfective contexts.
- Advanced group learners do not differ significantly from each other for tense use.

Prototypicality

- All learner groups show significant preference towards prototypical combinations.
 - The PC is used significantly more with telic than atelic situation types.
 - The IMP is used significantly more with atelic than telic situation types.
- Advanced group learners show significant prototypical effects with PC-telic and IMP-atelic combinations in perfective and imperfective contexts.
- Low group learners show significant prototypical effects with PC-telic and IMP-atelic combinations only in perfective contexts.

The results were contextualised and discussed in Chapter 6, where it was suggested that prototypicality appears only to influence L2 development once L1 form-meaning pairings have been reconfigured. The reconfiguration of L1 form-meaning pairings in the L2 is likely to be an essential requirement in order for semantically prototypical combinations (e.g. PC-telic) to be made. It also accounts for the finding that advanced group learners

are significantly influenced by prototypes in both perfective and imperfective contexts. However, low group learners are only significantly influenced by prototypes in contexts in which their use of tense is stable (perfective contexts). In imperfective contexts, low group learners' use of tense was variable (using the IMP, the PC and the PRES) and no significant use of prototypical combinations was found. The implications for SLA theory (Chapter 6) were discussed where particular attention was drawn to the AH and the predictions it makes for the L2 development of viewpoint aspect. It was noted that this study's results point to a route of L2 development different to that predicted by the AH. This different route of L2 development (i.e. prototypicality increases alongside increased proficiency) was explained by attributing a role to the L1 in forming L2 form-meaning pairings. Unless viewpoint aspect has been mapped in the L2 it remains difficult to see how prototypicality can influence L2 development. The AH attributes no role to L1-L2 differences in L2 development. Viewpoint mapping in the L2 is an essential condition for prototypical influence to take effect (as demonstrated in the advanced group data). The implication for the AH that follows is therefore: the role of the L1 in forming L2 form-meaning pairings for viewpoint aspect has to be considered. Prototypical influence appears only to influence L2 development after viewpoint aspect has been mapped in the L2. This finding not only indicates two stages for the L2 development of viewpoint aspect, but importantly that L1 influence can be overcome. Therefore until the AH takes into consideration L1-L2 differences for the L2 development of viewpoint aspect, the validity of its predictions will remain questionable. This study's results additionally indicate a direct correlation between accuracy in the L2 and L1 form-meaning complexity: the more complex the form-meaning relationship is in the L1, the more difficult it is to reconfigure meanings in the L2.

7.1 Limitations of this study

This thesis has shown how L1 form-meaning pairings and prototypicality influence L2 development, as it set out to do. However, throughout the course of this study a number of methodological limitations may have prevented the results from being as insightful as they may otherwise have been.

The first limitation deals with the investigation of progressivity. This was only investigated in the *Sentence Interpretation task* and not in the spoken narratives, unlike perfectivity and habituality that were investigated in all the tasks. As such, the conclusions on progressivity are not triangulated and are therefore comparatively weaker than findings on habitual and perfective marking.

Secondly, in the *les soeurs* spoken narrative, as discussed in Chapter 6, it is open to debate whether the second narrative shift was too sudden or not clear enough for learners. Switching between habituality and perfectivity appears to have especially affected English low group learners.

Thirdly, it is noted in Chapter 4 (section 4.5) that as indicated from the Foreign Languages Questionnaire (Appendix A), nearly all learners indicate knowledge of another language in addition to their L1 and French L2. Although learners' proficiencies in other declared languages were not tested, the questionnaire collected information of extensive stays abroad in foreign-speaking countries (including but not restricted to French-speaking countries) to be able to document as closely as possible exposure to other languages. Detailed information of learners' exposure to French is collected, such as the age of first exposure and how often they use French. The learners in this study did not declare any extensive exposure (e.g. work placements, multiple language exchanges) to languages other than French. That said, the effect of schooling and teaching in other languages cannot be ruled out and may have affected this study's results. This is especially true of German-speaking learners who all declare knowledge of English.

Fourthly, as all learners are instructed learners from two different education systems (as discussed in Chapter 4), it is possible that English- and German-speaking learners have been exposed to different teaching and learning styles. Input is an important factor to document in SLA research and although this study did not set out to investigate input effects on L2 development, information on exposure to French and other languages was collected through the Foreign Languages Questionnaire (Appendix A). It is indeed

possible that different teaching and learning styles may have contributed to differences between groups in this study's findings, at least initially. This study is not able to shed any light on this question. Further research (see section 7.2) in how different input types may influence the L2 development of aspect is required.

Finally, this study would have been strengthened with a less advanced group of learners. The low groups did not differ significantly from advanced group learners in the *Sentence Interpretation task*, but they did in the spoken narrative tasks. Furthermore, all learner groups showed very accurate use of tense, with hardly any infinitive forms. It would have been beneficial for this study to have included a group of less proficient learners in order to investigate how L1 form-meaning pairings influence development when learners' inflection of tense is less accurate and more variable.

7.2 Further research

This study has also indicated a number of areas for future research. Of particular interest is the influence of input on L2 development, as mentioned at various points in Chapter 6. The relationship between semantic prototypicality and frequency prototypicality is important and relevant. It appears at times that researchers assume semantic prototypes and frequency prototypes to be the same, at least implicitly (Andersen and Shirai, 1994, 1996; Shirai, 2004, 2009, 2010). However, further research on the relation between frequency and semantic prototypes is required in order to substantiate this claim. For example, do frequency prototypes only exist because they are also semantic prototypes? Or are there frequency prototypes that are not semantic prototypes? This question will not only be particularly insightful for the AH, but it will also reveal language-specific prototypical differences, if any exist. Furthermore, if it turns out there are language-specific frequency prototypes that are not semantically prototypical, then this has major repercussions for the AH. Related to prototypicality is the influence of naturalistic input on L2 development. It was found in this study that prototypicality significantly increased with proficiency. Now, other than the reconfiguration of L1 form-meaning pairings in the L2, it is not instantly clear why prototypicality would strengthen. The advanced group

learners in this study had also spent more time abroad than low group learners. If L2 learners are exposed to more prototypical than non-prototypical combinations, then this would go some way to explain why prototypicality increases. This may also be able to contribute to some claims that some prototypical combinations are rote-learned (e.g. IMP with statives). The question of prototypical influence in L2 development is an area ripe for further investigation.

Appendix A. Foreign languages questionnaire

1. First name: _____
2. Surname: _____
3. Date of birth: _____
4. Sex: _____
5. Mother tongue: _____
6. Other languages: _____
7. Age of first contact with French: _____
8. How often do you speak French?

9. Context for contact with French (e.g. school/ university etc.) _____

10. Total lengths of stay in foreign-speaking countries

Country	Length of stay	Context (e.g. work/study etc.)

11. Degree course: _____

Appendix B. C-test

Name :

This is a written exercise. There are five texts with missing letters. Please complete the words by filling in the blanks.

Example

Difficile mesure du recul des glaces

En climatologie, les bonnes nouvelles peuvent ne pas s'avérer si bonnes qu'elles en ont l'air. Ainsi de celles apportées par les travaux franco-canadiens publiés dimanche 17 janvier dans la revue Nature Geoscience, qui revoient à la baisse les estimations précédentes de la fonte moyenne des glaciers de l'Alaska depuis un demi-siècle.

1. Les vaches folles

Selon une récente enquête, 45 % des Français auraient diminué ou cessé de manger de la viande de boeuf depuis le début de la crise de la vache folle. Ils s___ tournent ve___ les vian___ blanches e___ la nourr___ végétale. O___ court sa___ doute divan___ de risq___ en pren___ le vol___ de s___ voiture qu'en consom___ une entre___. Mais, com___ le remar___ dernièrement u___ sociologue, «le___ Français veul___ bien mou___ en conduisant mais pas en mangeant».

2. La grève s'atténue sur le réseau Paris-Nord

Le mouvement de grève lancé hier par les conducteurs et contrôleurs de la SNCF officiant sur les lignes K et H du réseau Paris-Nord devrait s'affaiblir aujourd'hui. Hier mat___, un tra___ sur de___ roulait su___ la lig___ K, cont___ un tra___ sur tro___ sur l___ ligne H. Les grév___ ont recond___ le mouve___ au cou___ d'une assemb___ générale, bi___ que celui-c___ ne semb___ pas avo___ été fort___ suivi. La grève, décidée pour des motifs salariaux et pour des questions de notation, devrait encore s'affaiblir aujourd'hui, selon la SNCF, qui prévoit une reprise normale du trafic sur la portion K.

3. Strauss-Kahn exhorte les Etats à agir vite

Les réunions financières de Washington vendredi vont permettre de faire le point sur la crise et de tester la stratégie adoptée lors du récent G20 de Londres.

Si l'o___ a enc___ un do___ sur l___ montée e___ puissance d___ pays émerg___ dans l___ gouvernance économ___ mondiale, i___ sera définiti___ balayé cet___ semaine. U___ G20 d___ ministres d___ Finances e___ des gouver___ de banq___ centrales d___ vingt pa___ les plu___ importants économ___ va s___ tenir vend___ à Washington, à l'initi___ du secrét___ américain au___ Trésor améri___, Timothy Geithner.

La réunion donnera le coup d'envoi aux assemblées de printemps du Fonds monétaire international et de la Banque mondiale (25 et 26 avril).

4. L'importance de se faire vacciner

La semaine européenne de la vaccination vient de commencer hier. Une sema___ de plu___ consacrée à u___ problème d___ santé par___ que le___ autorités d___ santé tir___ aujourd'hui l___ sonnette d'alar___.

Les vac___ ne son___ pas ass___ faits dan___ notre pay___ et certa___ maladies qu___ l'on pens___ disparues réappar___ comme l___ rougeole pa___ exemple... O___ est pass___ à pr___ de 600 ca___ en 2008, c___ qui, comp___ tenu d___ non-respect d___ l'obligation d___ déclarer cet___ maladie, signif___ que plusi___ milliers d___ cas so___ survenus.

Autre vaccination que la semaine consacrée à ce thème veut aborder est celui de l'hépatite B.

5. Certains examens d'université devront être reports, dit Fillon

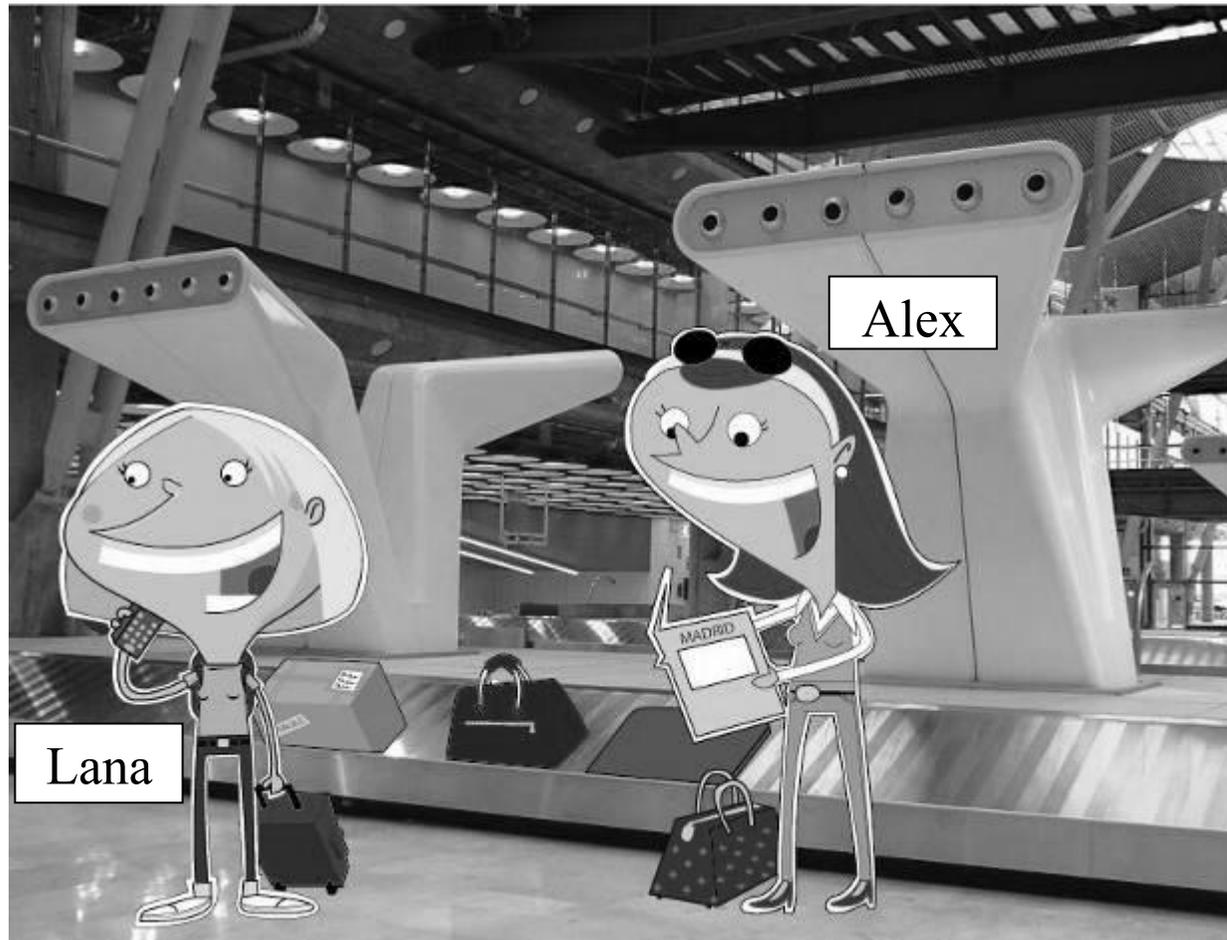
François Fillon reconnaît que la contestation universitaire conduira à repousser la date des examens de quelques mois "dans certains cas".

Selon l___ Premier minis___, interrogé su___ France Inter, l___ mouvement d___ enseignants-chercheurs es___ aujourd'hui "tr___ minoritaire" e___ concerne "ent___ 20 e___ 25 sit___ universitaires su___ la cent___ que comp___ la Fran___".

"Le gouver___ n'acceptera jam___ que le___ examens soi___ bradés. Ce ser___ une catast___ pour l'ima___ de l___ France dan___ le mon___", a-t-il estim___.

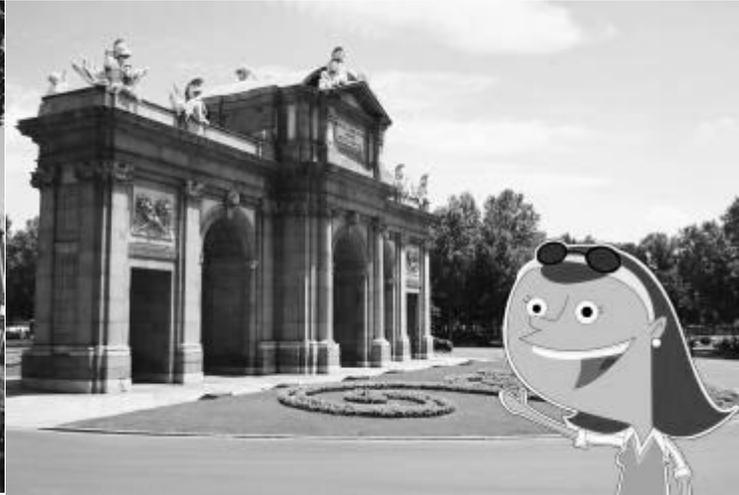
Le gouvernement est très ouvert au dialogue donc il faut que ce mouvement s'arrête.

Les vacances de Lana et Alex en Espagne



Été 2006

À Madrid



(visiter) le centre-ville

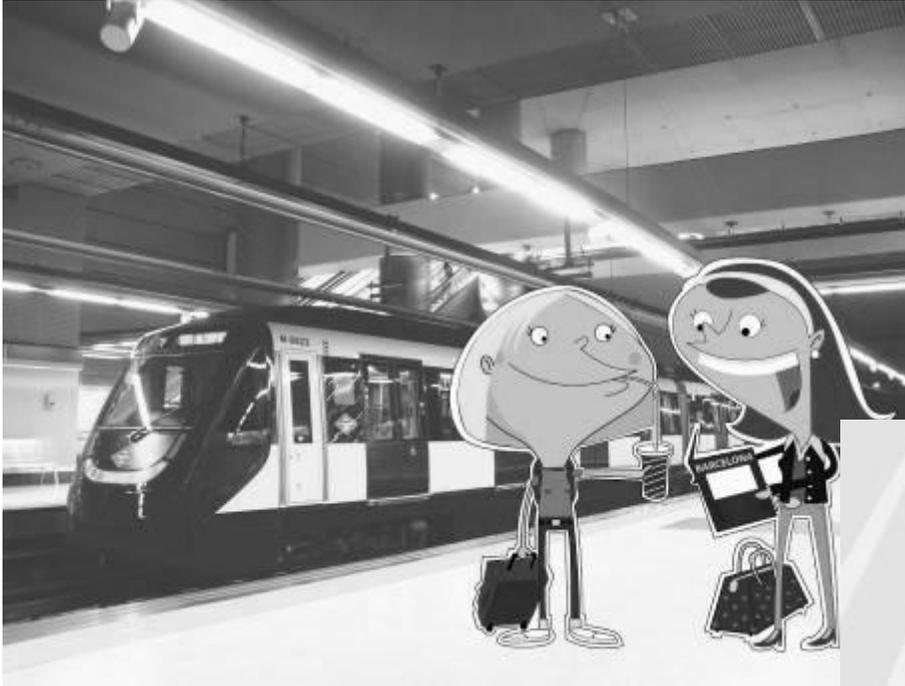


(manger) des tapas

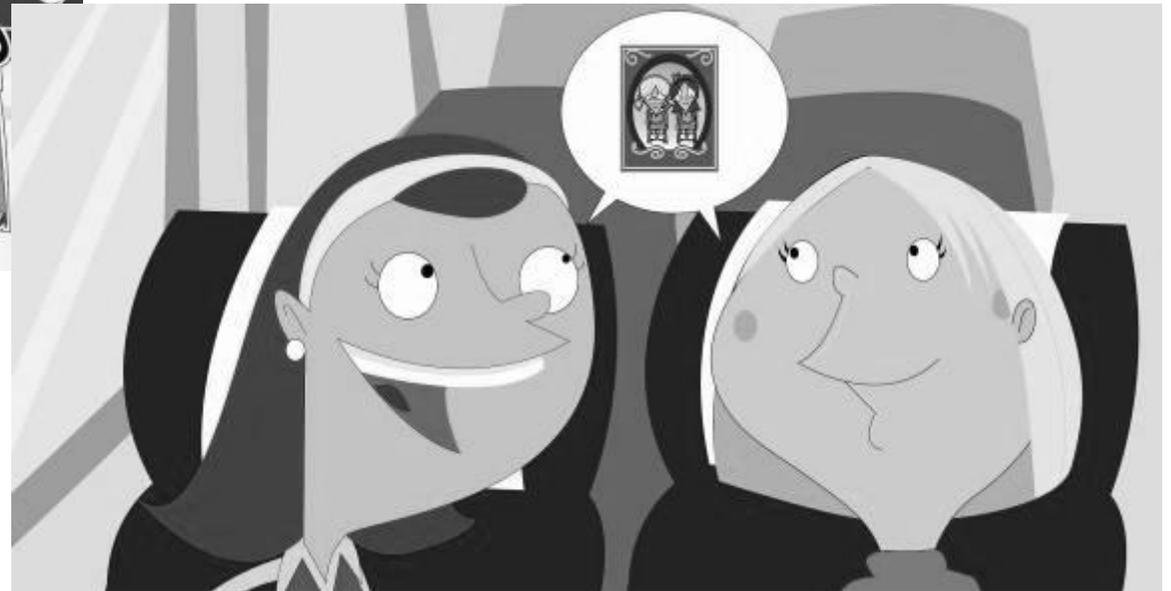


(boire) du vin

Ensuite, en route pour Barcelone!



(prendre) le train



(parler) de leur enfance



(être) très différentes

Quand elle était petite, le week-end, Alex...



(lire) des livres



(écrire) des histoires



(peindre) des dessins

Pendant la semaine, Alex...



(se lever) tôt

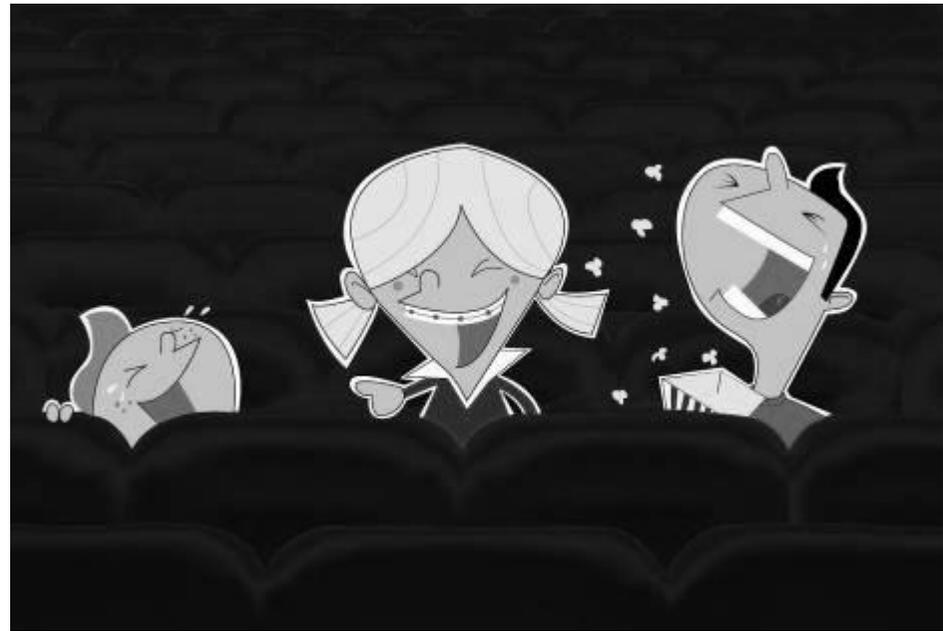


(finir) ses devoirs tôt

Quand elle était petite, le week-end, Lana



(jouer) au foot



(aller) au cinéma

Pendant la semaine, Lana...



(faire) du vélo



(arriver) en retard en cours

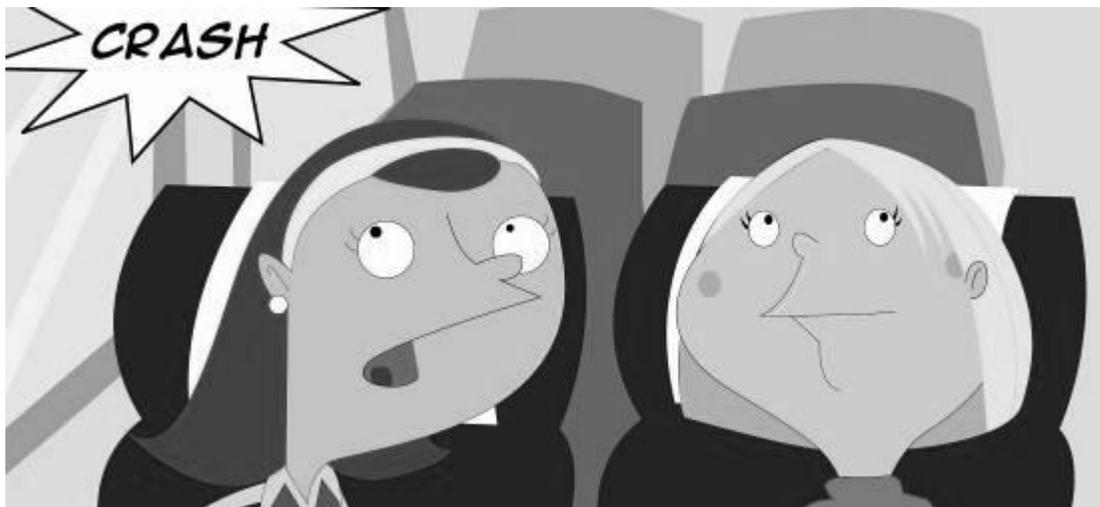


(apprendre) ses leçons tard la nuit

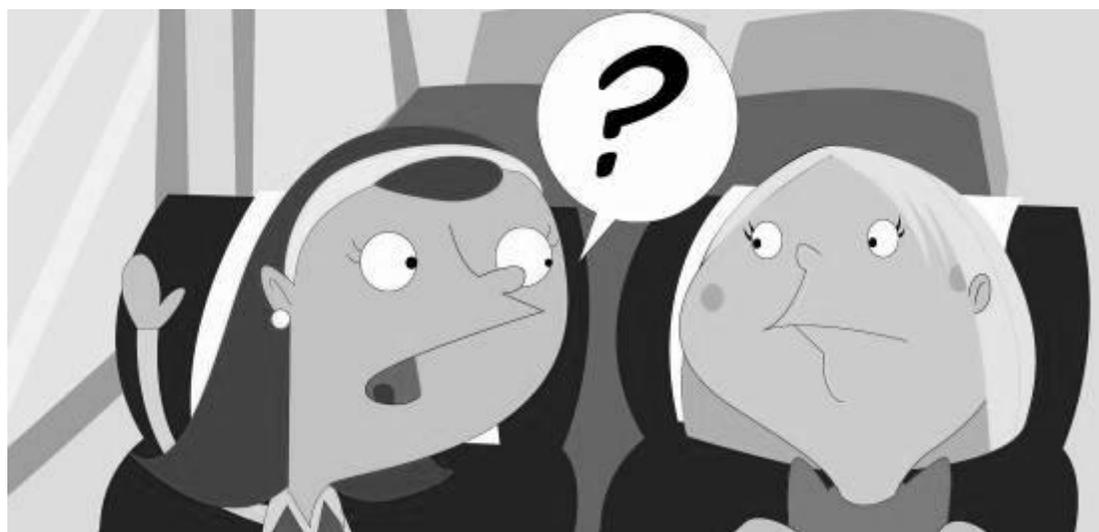


(se coucher) tard

Et alors, tout à coup, dans le train...



(avoir) un accident



(réfléchir) à la cause de l'accident



(sentir) des gouttes de pluie



(demander) l'aide du contrôleur



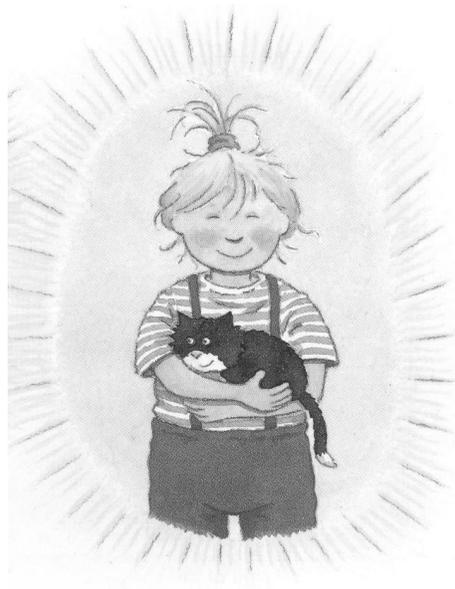
(avoir) de nouveaux sièges



(se détendre)

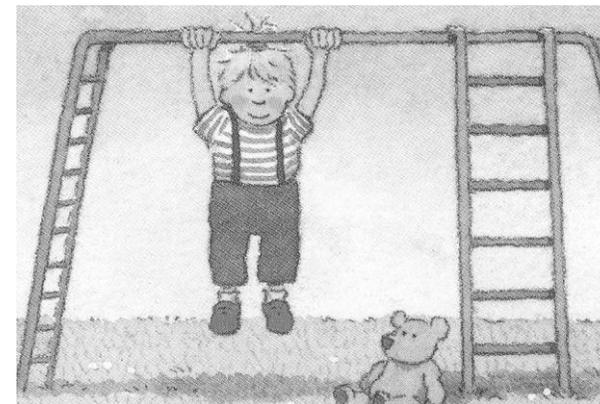
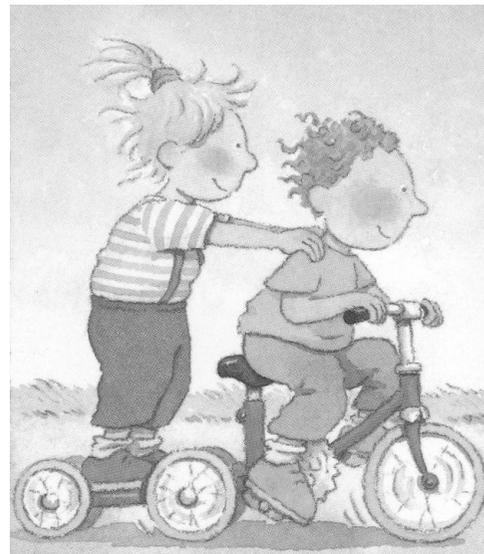
Appendix D. *Natalie et Albert*

L'histoire de Natalie et son chat, Albert

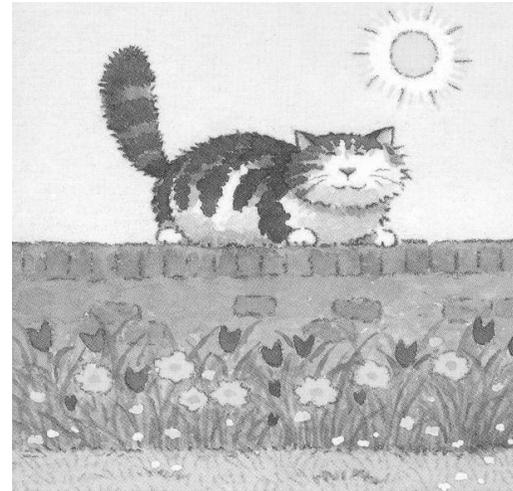


Chaque matin, la même routine...

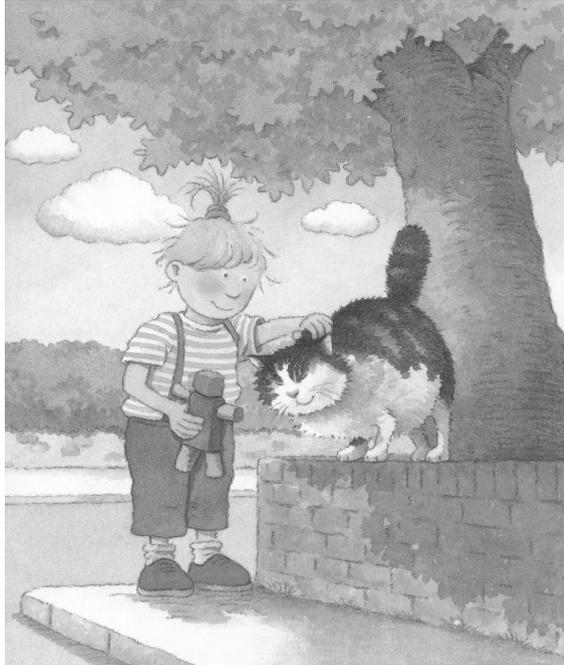
Natalie...



Albert...

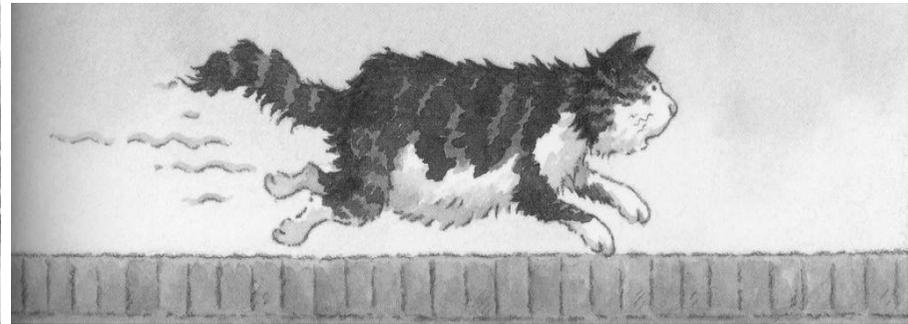
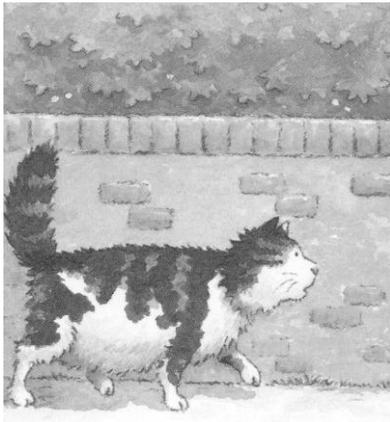
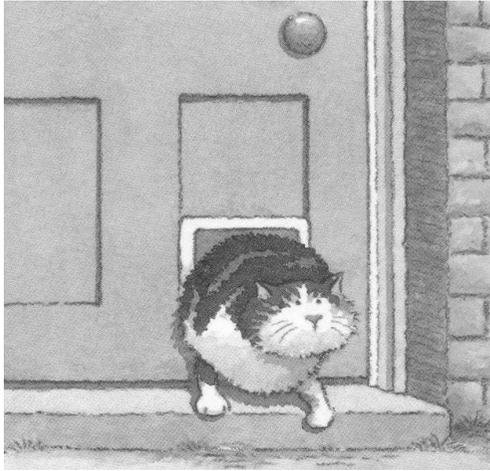


À la fin de la journée

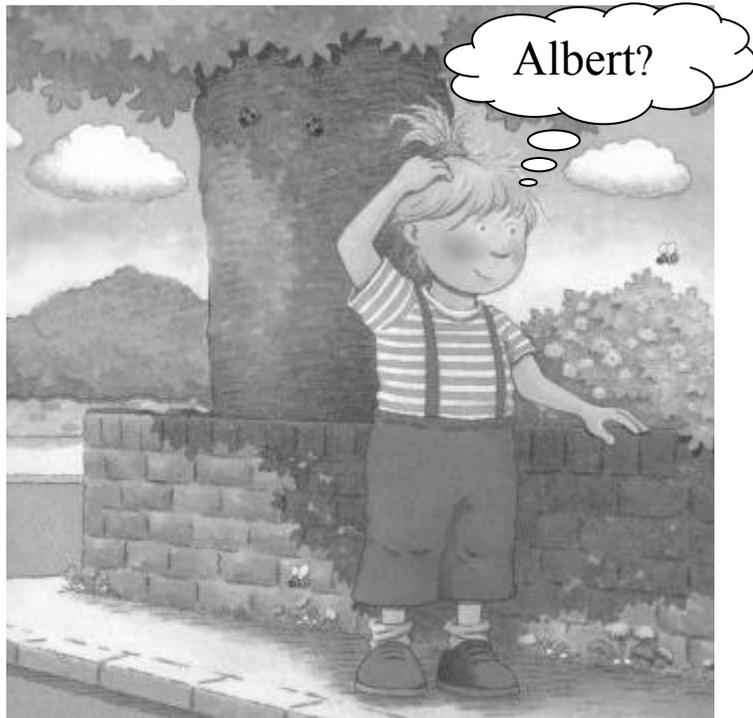


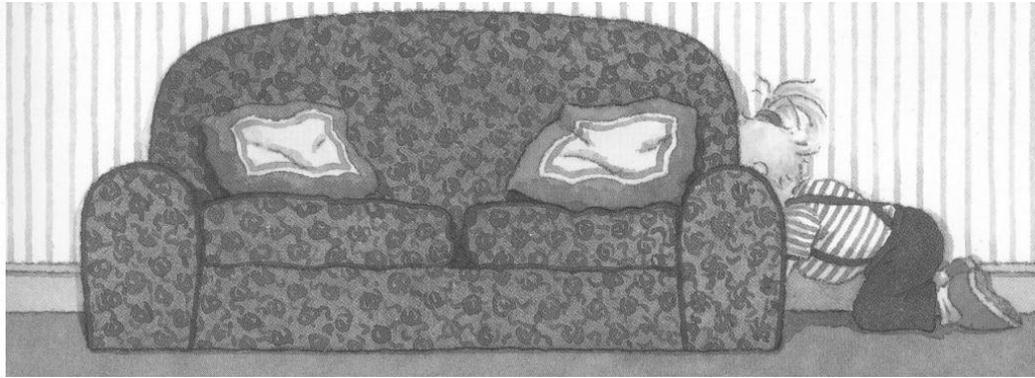
Mais, un jour...

Albert...



et Natalie...

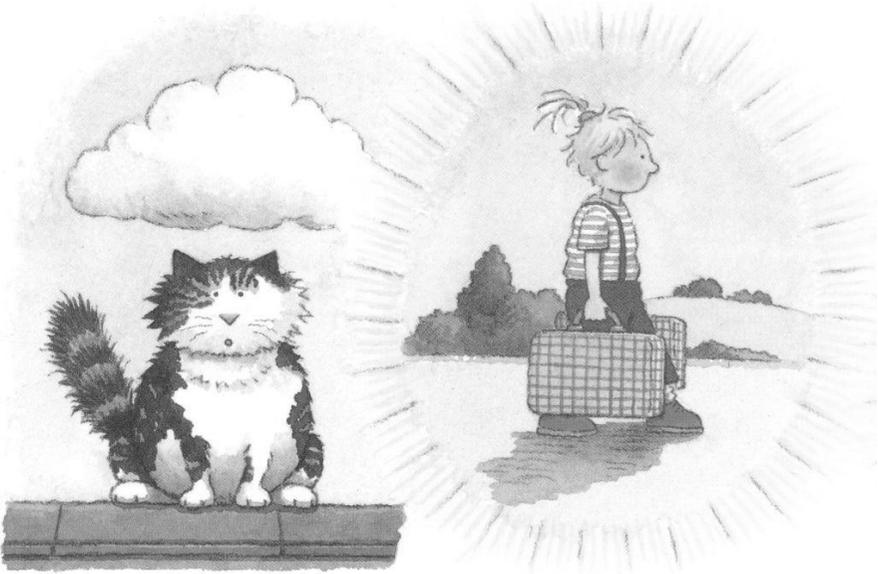
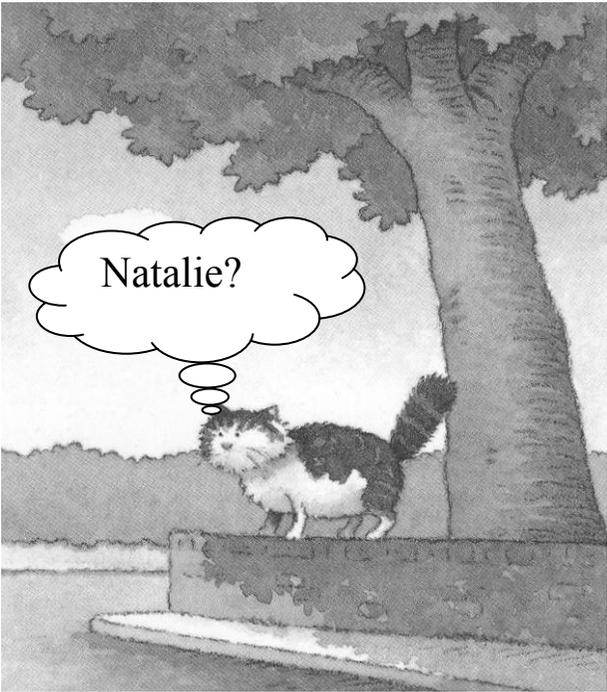




Natalie...

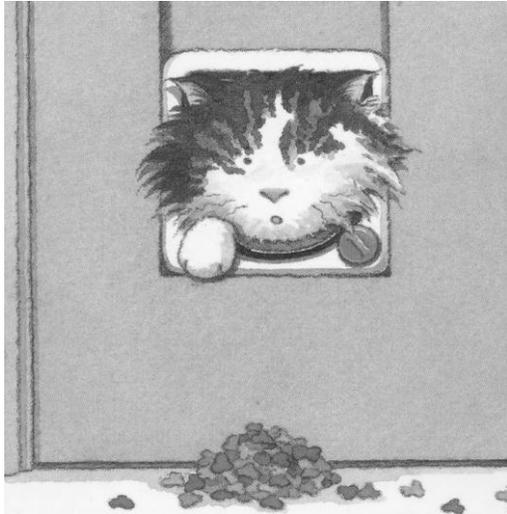


Albert...



Albert...







-Fin-

Appendix E. Sentence Interpretation task

Name:

In this written sentence interpretation task, each numbered item has a CONTEXT and TWO SENTENCES to be rated. The context passage is written in ENGLISH and the sentences to be rated are written in FRENCH. For each numbered item, please rate the FRENCH sentences in terms of how appropriately they describe the context. Sentences are rated on the following judgement scale:

Judgement scale:

-1	0	+1
Inappropriate	Don't know	Appropriate

Example:

Ian owns his own building company. Last year his company built three houses.
<i>Ian a construit trois maisons</i> -1 0 +1
<i>Ian construit trois maisons</i> -1 0 +1

My sister really loves reading. She reads whenever she gets a chance. I gave her the latest Harry Potter book for Christmas and by Boxing Day she had finished it.

Ma sœur a lu le dernier Harry Potter

-1 0 +1

Ma sœur lisait le dernier Harry Potter

-1 0 +1

I woke up very late on Monday morning and I missed my doctor's appointment. The doctor was not very happy.

Je me suis levé tard

-1 0 +1

Je me lève tard

-1 0 +1

It was Hannah's birthday last night. She went to the pub with all of her friends. She drank too much wine. Today she doesn't feel too well.

Hannah a bu du vin

-1 0 +1

Hannah avait bu du vin

-1 0 +1

Henry is a builder and he has built many houses. Last month he built a villa in Spain.

Henry a construit une villa

-1 0 +1

Henry construisait une villa

-1 0 +1

Tony is an athlete and he was preparing to run the London marathon. On the day of the marathon, he was very unlucky. He broke his ankle just one meter from the finishing line.

Tony a couru vers la ligne d'arrivée quand il s'est cassé la cheville

-1 0 +1

Tony courait vers la ligne d'arrivée quand il s'est cassé la cheville

-1 0 +1

When Sam was at school, he used to play a lot of football. He played so much football that he was often too tired to study. He used to need help to do his homework.

Sam a eu besoin d'aide pour faire ses devoirs

-1 0 +1

Sam avait besoin d'aide pour faire ses devoirs

-1 0 +1

Last weekend I went shopping with my mum. We bought some new shoes for my sister's wedding.

J'ai acheté de nouvelles chaussures

-1 0 +1

J'achèterai de nouvelles chaussures

-1 0 +1

When Mary was at school, she used to be good friends with Anna. Mary used to go to Anna's house a lot after school.

Mary est allée chez Anna après l'école

-1 0 +1

Mary allait chez Anna après l'école

-1 0 +1

I have just visited my cousin Frank. Frank had just come home from school and he was busy reading his new book.

Frank a lu quand je suis arrivé

-1 0 +1

Frank lisait quand je suis arrivé

-1 0 +1

Tina often went fishing with her father. They went last weekend.

Tina est allée à la pêche

-1 0 +1

Tina va aller à la pêche

-1 0 +1

My sister is an athlete. She ran the London Marathon last year.

Ma soeur a couru le marathon

-1 0 +1

Ma sœur avait couru le marathon

-1 0 +1

I enjoy films. Last weekend I went to the cinema and saw the latest James Bond film.

J'ai vu le dernier James Bond

-1 0 +1

Je vois le dernier James Bond

-1 0 +1

Last night Martha got very scared. Around 2am she heard a very loud noise in the street.

Martha a entendu un bruit très fort

-1 0 +1

Martha entendait un bruit très fort

-1 0 +1

When Harry was a teenager he always used to fight with his brother. How they get on very well.

Harry a aimé son frère

-1 0 +1

Harry aime son frère

-1 0 +1

When I was a child I was always late for school. I used to sleep in everyday and miss my train.

Je suis arrivé en retard en classe

-1 0 +1

J'arrivais en retard en classe

-1 0 +1

Paul had to explain to his parents why he didn't come home last night. He went out with his girlfriend after dinner and didn't come home.

Paul est sorti avec sa copine

-1 0 +1

Paul sortait avec sa copine

-1 0 +1

Tanya and Rose were going to see a film at 7pm. When they arrived at 6.45pm the film had already started. They found out that the starting time had changed.

Le film a commencé à 7h

-1 0 +1

Le film commençait à 7h

-1 0 +1

It was a really warm day, so John decided to go for a walk during his lunch break. He ate his lunch in the park.

John a mangé dans le parc

-1 0 +1

John mangeait dans le parc

-1 0 +1

Paul is a builder and he has a building company. His company used to build hospitals in war zones. Now they company builds schools.

L'entreprise a construit des hôpitaux dans des zones de guerre

-1 0 +1

L'entreprise construisait des hôpitaux dans des zones de guerre

-1 0 +1

James waited for three hours at the airport. His sister's flight was very late.

Le vol a eu du retard

-1 0 +1

Le vol aura du retard

-1 0 +1

My friend Sam phoned last night to cancel our revision session. He didn't need any help. He got the class notes from someone else.

Sam n'a pas eu besoin d'aide

-1 0 +1

Sam n'avait pas besoin d'aide

-1 0 +1

On television today there was a report about a climber. He was climbing a mountain and ran out of oxygen. He died before he reached the top.

L'homme a gravi la montagne et il a manqué d'oxygène

-1 0 +1

L'homme gravissait la montagne et il a manqué d'oxygène

-1 0 +1

I woke up very late today and I missed the bus to school. I had to phone my dad and ask him to take me to school.

Je suis arrivé en retard en classe

-1 0 +1

J'arrivais en retard en classe

-1 0 +1

Elizabeth has moved to a different part of the city. Before, she was too close to the train station and didn't manage to sleep well at all.

Elizabeth a entendu le bruit des trains tôt le matin

-1 0 +1

Elizabeth entendait le bruit des trains tôt le matin

-1 0 +1

Julie has just bought a new book for Carol. Carol reads a lot.

Julie a acheté un nouveau roman

-1 0 +1

Julie avait acheté un nouveau roman

-1 0 +1

When Mike was a child he used to enjoy going for picnics with his grandparents in the park.

Mike a mangé dans le parc

-1 0 +1

Mike mangeait dans le parc

-1 0 +1

When I was younger I used to play a lot of computer games, now I prefer to read books.

J'ai joué aux jeux vidéo

-1 0 +1

Je jouerai aux jeux vidéo

-1 0 +1

We went to the staff room to look for Mrs Smith, but she wasn't there. Instead, Mr Green was there preparing our final exams.

M. Green a préparé l'examen

-1 0 +1

M. Green préparait l'examen

-1 0 +1

I went to a concert with my friend, but we missed the bus. We got there late. When we arrived, the pianist had already started playing.

Le pianiste a joué quand nous sommes arrivés

-1 0 +1

Le pianiste jouait quand nous sommes arrivés

-1 0 +1

Leila was up very late last night. She was catching up with her homework.

Leila a travaillé beaucoup

-1 0 +1

Leila travaille beaucoup

-1 0 +1

Antonio needed some money, So, he advertised his guitar for sale. But he decided that he loved his guitar too much, so in the end he decided not to sell it.

Antonio a vendu sa guitare

-1 0 +1

Antonio vendait sa guitare

-1 0 +1

Mark has just split up with his girlfriend, Naomi. Naomi was very happy when she used to go out with Mark. She was very shocked that he wanted to end the relationship. Now she seems very depressed.

Naomi était contente quand elle est sortie avec Mark

-1 0 +1

Naomi était contente quand elle sortait avec Mark

-1 0 +1

Appendix F. Consent form

CONSENT TO USE DATA COLLECTED DURING THE TASKS

Researcher: Kevin McManus
Email: kevin.mcmanus@newcastle.ac.uk
Supervisory team: Prof. Florence Myles (florence.myles@newcastle.ac.uk)
Dr Richard Waltereit (richard.waltereit@newcastle.ac.uk)

Research institution: Newcastle University

The data collected from this research project forms part of a Ph.D. thesis, which aims to investigate the linguistic development of instructed learners of French. My involvement will consist of taking part in two oral and two written tasks. The oral data will be audio recorded and transcribed. All the data that I provide, sound files, transcripts and writing, will be anonymised, with all references to proper nouns (i.e. identifying people, places or institutions) removed.

I understand that I can withdraw my consent at any time by contacting the researcher.

I give my permission for the data that I will provide to be used for research purposes only (including research publications, reports, seminars).

I hereby assign the copyright of my contribution to the researcher.

Name:.....

Signed:
(Participant)

Date:

Signed:
(Researcher)

Date:.....

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