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The Second Time

The Acquisition of Temporality in Dutch and French as a Second Language
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Chapter 1

Introduction

This study is about learning a language, in particular a second language. Learning a second language implies the acquisition of a new communicative system outside the classroom but in social interaction with native interlocutors in the host country. In contrast to what happens during child language acquisition, the adult Moroccan and Turkish learners of the present study cannot count on the world to provide them with food and shelter while they are struggling to communicate. They have to use whatever information they can collect from the speech stream of their Dutch and French interlocutors, native speakers of the target languages of the present study. At the same time their communicative tasks are vitally important as they have to look for a job, ask for social services and buy bread.

The general aim is to describe and to compare this acquisition process of Turkish and Moroccan learners of Dutch and French from a longitudinal perspective, during a two-and-half-year period of language acquisition. The data is taken from the European Science Foundation's longitudinal and cross-linguistic database (cf. Feldweg 1991) and was collected from the onset of the acquisition process in the host countries. The approach I follow is based on language use and communicative needs, and analyses how a second language user succeeds, or does not succeed, in expressing temporal reference in the target language. Right from the beginning of the acquisition process, it is necessary for an adult to contextualize or to anchor in time the events/states he is talking about and whether one event happens/occurs after, before or simultaneous to another one. Therefore, the acquisition of temporal reference is a good testing-ground for investigating the communicative needs of second language learners. The primary goal of this study is a comparative description of what linguistic forms the Moroccan and Turkish learners use at different stages of acquisition to express temporal reference.

A more challenging goal is to identify which factors determine the acquisition process of temporal reference. To this end, I make a distinction between factors that shape, e.g., semantic, structural, and formal properties of the first and second language, and factors that push the acquisition, e.g., communicative needs. I investigate how the learner’s linguistic repertoire is organised at a given moment, how this repertoire is put to use in particular communicative tasks, and how the
repertoire changes over time in respect to the same tasks. Not surprisingly, it will turn out that both types of factors conspire to determine the outcome of the acquisition process.

In this introductory chapter, I first describe the rationale of this study (1.1). Section 1.2 lays out the contrast between time as physicists think about it and time as psychologists think about it, and drives home the point that event order is all important to us psychologically and therefore must be represented in language somehow, never mind what physics has to say about this. I then explain in section 1.3 how languages differ in the linguistic repertoire they offer to express “common” temporal notions and how this implies that the second language learner already has some cognitive and linguistic predispositions by virtue of what he already knows from his first language. This is followed by a discussion of shaping factors, i.e., the cognitive and linguistic make-up of the learner (1.4) and pushing factors of the acquisition process, i.e., the learner’s propensity to acquire (1.5). In the last section (1.6), I describe the organization of this study.

1.1 The rationale of this study

A question that has been puzzling and driving me throughout my study of the acquisition of temporality by second language learners, is the one posed to me by an English learner of Dutch as a second language: “How can you live without a progressive?” In fact, it was a cry of despair at a time when she was struggling with the minimal set of morphological aspect markings that Dutch offers. Her question directly reflects the rationale of this study, that is, differences in the implicit and explicit linguistic devices that languages use to express temporality and the consequences of this cross-linguistic variation for the second language learner. The scope of this rationale means that I do not concentrate only on the morphosyntactic tense and aspect possibilities that languages dispose of. I investigate the use of the whole array of temporal expressions, from implicit pragmatic means to explicit verbal inflectional means. Particularly in second language acquisition, the functioning of temporality is based on the interaction between what is explicitly said in words at the local utterance level and what can be implicitly inferred on the basis of context at the global discourse level. Moreover, I think that ignorance of this interplay between a rich set of pragmatic, semantic, and (morpho)syntactic devices and exclusive concentration on tense and aspect marking yields a misleading picture of the acquisition process.

One aim of this study is to give a detailed description of the stages of development in the organization of temporality as they were acquired by Turkish and Moroccan learners of Dutch and Moroccan learners of French over a two-and-half-year period of untutored language acquisition. The data were collected from the moment the learners began to acquire the target language of their host
countries. The comparison of two source and two target languages in combination with a relatively long period of data-collection allows the adoption of both a cross-linguistic and a longitudinal design. In addition to this aim, which can be reformulated in the general acquisition research questions of what is acquired and how it is acquired, I also want to answer the following question: Why does the learner move on, that is, what mechanisms or factors push learners to develop a particular linguistic device? Or, the other way around, why does the acquisition of linguistic devices stagnates at a particular stage?

I examine what could be language-internal explanatory factors and in particular the communicative and structural forces that shape the acquisition process and its outcome. My aim is to capture the mechanisms and factors determining an adults’ construction of a new linguistic-communicative system, and their interaction. In this vein, I regard two clusters of explanatory factors as important. One is the cognitive and linguistic make-up of the learner, i.e., the knowledge that a learner brings along into the acquisition task. Second, the learner’s propensity to acquire, namely his communicative needs, his motivations and attitudes towards the target language and its speakers. I explain in the next section how languages differ in the linguistic repertoire they offer to express “common” temporal notions. This implies that the second language learner already has some cognitive and linguistic predispositions by virtue of what he already knows from his first language. Of course, the formal and the functional characteristics of the second language input are also taken into account in the first cluster of explanatory factors that shapes the acquisition process. Still, this cannot be the whole story. I show in detail that second language learners produce constructions, utterances and discourse which cannot be explained directly by the way temporal information is organised in their mother tongue nor in the language they are learning.

With respect to the second cluster of explanatory factors, namely the learner’s propensity to learn the second language, I will first compare the communicative needs of a second language learner with those of a first language learner. Although I consider the entire sociolinguistic matrix a learner brings to the acquisition as relevant to its speed and rate of success, I will concentrate on language-internal communicative factors, that is, the expressive power of linguistic repertoires. An important aim of this study is to discover the precise communicative shortcomings that can be considered to be the most important system-internal explanatory factors of language acquisition. But first I want to present in a nutshell how time is organized in language and how different languages provide different tools to handle temporal reference.
1.2 Temporality

At the age of 26, Albert Einstein demolished the 300-year-old idea of absolute time. He overthrew the entire foundations of classical Newtonian physics and replaced them with a revolutionary reassessment of reality in which time and space took on a new meaning. This was called relativity. Einstein demolished almost everything that common sense had to say about time. However, one essential aspect of time eluded him. He failed to account for the arrow of time (see The Arrow of Time, Coveney and Highfield 1990): that’s to say, time flows in one single direction, it points from past to future, like an arrow (astrophysicist Arthur Eddington 1927). We may yearn to turn back the clock, to undo mistakes or to relive a wonderful moment but time cannot run backwards, as Victor Hugo expresses so well:

\[ O \text{ souvenirs ! trésor dans l'ombre accru !} \\
\text{Sombre horizon des anciennes pensées !} \\
\text{Chère lueur des choses éclipées !} \\
\text{Rayonnement du passé disparu !} \]

This non-reversibility of time makes time a major source of hope (time will heal all wounds) but also of fear. In our culture, time is often regarded as a scarce and therefore valuable resource, to be “saved” or at least not to be “wasted”. We often see our problems as resulting from not having enough time, we face deadlines and time limits. Time becomes a source of much of our anxiety.

Compare time with space. Space surrounds us, yet time is experienced bit by bit. The distinction between left and right is trivial compared with the distinction between past and future. We can shuffle around freely in space, yet, by our actions we can only affect the future, not the past. We have memory, not precognition (clairvoyants excepted). So it seems that although space has no pre-determined directional characteristics, time does.

The common-sense view of time finds its most eloquent expression in some of the great works of literature. Uni-directional time gives us the idea of transience, captured in the title of Proust’s novel “À la recherche du temps perdu”. Uppermost in this author’s mind is the knowledge that we have only a finite and short amount of time to live and that there can be no going back. Moments must be snatched as time continues its ineluctable progress, each moment appreciated with poignant intensity.

The great edifices of modern science -Newton’s mechanics and Einstein’s relativity- would all appear to work equally well with time running in reverse. For these theories, events recorded on a film would be perfectly plausible no matter which way the film was run through the projector. Uni-directional time, in fact,

\[ ^{1} \text{Victor Hugo: Un soir que je regardais le ciel, Les Contemplations, liv. II, XXVIII, 116.} \]
comes to appear as simply an illusion created in our minds. Frequently, scientists who investigate this problem refer to our everyday sense of the flow of time, rather sneeringly, as “psychological time” or “subjective time”. However, although it is not to the taste of modern scientists, in our culture and language people still conceptualize time and speak about it as if it is uni-directional and abstract. And this is how it is expressed in language. No matter what physics has to say about possible orderings of time spans, event order is all important to us psychologically and therefore must be somehow represented in language. Uni-directionality seems to be the common denominator of all types of temporal expressions in all types of languages. In the following section I explain how this irreversibility of time that seems psychologically so important, is represented in language.

1.3 Time in language

One typical temporal notion expressed in language is tense. Tense is a deictic category that places a time talked about in the past, present, or future in relation to the moment of utterance and seems to be the most obvious candidate for expressing the uni-directionality of time. Aspect is another candidate and encodes the temporal relationship between a time talked about and the time of the situation. It is often metaphorically described as “viewing the internal temporal constituency of a situation” (Comrie 1976: 3). Following the example of Klein (1994), I define tense and aspect as abstract temporal relations which relate in different ways the three relevant time spans for expressing temporal relations: the time talked about or topic time (TT), the time of situation (Tsit), and the time of utterance (TU). The temporal relation between TT and TU conveys tense. The temporal relationship between TT and Tsit conveys aspect. Languages encode these tense and aspect relations in different pragmatic, lexical or morphological ways.

This study does certainly not aim to offer the final theory of temporality, i.e., the relation between the mental concept of time and its expression in language. Such an endeavour would be too naive given the complexity of this domain of language and, in any case, is not my primary concern. Although the Reichenbachian (1947) tripartite system (point of reference R, point of event time E and point of speech S) is widely used in the acquisition literature, I have reason to believe that Klein’s approach is an appropriate framework for analysing in a language-neutral way the expression of temporality in my acquisition data (see also chapter 2). I have opted for this account because it clearly distinguishes what Klein calls external (tense, aspect, and positional adverbials) and internal temporal features of linguistic devices (“Aktionsart” and temporal adverbials of duration etc.). Grammatical aspect, for example, is a difficult to define grammatical category and this has been teasing many students of temporality since Aristoteles.
Internal temporal characteristics like durativity and punctuality are often mixed up with the grammatical category of aspect and the distinction with tense is often obscure. I show in this study that Klein’s separation of tense and aspect encodings, internal and external temporal features, and the fact that he gives Reichenbach’s insubstantial point of reference a straightforward definition, allows a better analysis of the way and the order in which temporal concepts or functions are expressed in acquisition data. The factors that might shape and push the acquisition of linguistic devices are discussed in the next two sections.

1.4 The cognitive and linguistic make-up of the learner

Different languages give different formal priorities to temporal functions which are nevertheless shared. For example, a tense-less language without morphosyntactic tense marking like Moroccan-Arabic has an important set of lexical temporal adverbials to accomplish temporal tense reference. This implies that a Moroccan speaker will look for means in the second language to fulfill the temporal notions he already knows in his/her first language. These cognitive and linguistic predispositions must cause second language learners much frustration, as expressed by the English learner of Dutch described at the beginning of this chapter. The grammatical encoding of the progressive in her mother tongue makes this learner believe that this must be a basic concept of time. This is captured by Slobin (1991: 23):

“In brief, each native language has trained its speakers to pay different kinds of attention to events and experiences when talking about them. This training is carried out in childhood and is exceptionally resistant to restructuring in adult second-language acquisition.”

Apart from these “pre-conceptions” of the second language learner about the form and function of the language being learnt, I consider the perceptual saliency of the linguistic devices in the second language as an important factor in the shaping of the acquisition process. In this study, French and Dutch are the target languages. It is generally assumed that spoken French can be characterized as an opaque linearization of unstressed and homophoneous morphemes. This implies that it is very difficult for someone who learns French in every-day communication to tear apart morpho-phonologically clusters into semantic units. This is reflected in the way the Moroccan learners of French in the present study hypothesize about French verbal forms. Their local hypotheses are built firstly on frequent tokens from the input, such as *il m’a donné* ‘he has given it to me’, and *tu m’a dit* ‘you have said to me’ and they then take over the cluster of subject pronoun *tu*, oblique pronoun *m*’ and auxiliary *a* to other verb stems. In the following example, Abdelmalek retells part of a Charlie Chaplin film (Modern
At this occasion I would like to cite Wolfgang Klein’s parable (1991:170) about the susceptible relation between theory and empirical findings: “You know that much”, said the wise man to the explorer, “but your knowledge is not really forceful. You know all these things about the sun, when it raises and when it sets, how far it is and how hot. But I know a formula, and when I spell it, the sun begins to shine. Do you know such a formula?” “No”, said the explorer, “I am impressed. And this formula really works?” “On occasion, at least”, said the wise man, “but you don’t even have a formula, do you?”
Interestingly, these doubling constructions are only used by those learners of Dutch who have passed the initial stages of acquisition. It is argued in the present study that double auxiliary marking in learner utterances can be explained as the learner's need to spell out the target tense and aspect system through free morphemes (one for tense: *is* versus *was* and one for aspect: *is* versus *heeft*), irrespective of the semantic properties of these linguistic devices in the target temporal reference system.

In fully-fledged languages, tense and aspect notions are often packaged into one complex inflected verbal form. The grammatical encoding of these notions differs from language to language. The adult learners of the present study create at first a system of free morphemes expressing tense and aspect regardless of language-specific properties. They create their own system based on general principles of information organisation. An important aspect of this study is that the structural properties (i.e. the position in the utterance) of these free morphemes parallel the structural embedding of temporal adverbials like *nog* 'still’ described in example (1.1): The tense marking *is/was* is embedded in the topic component of the utterance, like *nog* 'still’ in utterance 1.1. Being sentence initial elements, *nog* and *is/was* clearly take in their scope what is surface syntactically to their right, that is, the entire utterance. This structural embedding of the early morphosyntactic tense marking and the lexical temporal adverbial locate the entire utterance on the time axis. In contrast, the aspect marking *heeft/is* is embedded in front of the verb, after the subject, to indicate the aspectual character of the situation description. This utterance organisation cannot be explained by L1 or L2 influence, but must also be attributed to the outcome of general learner principles of information organisation. Based on evidence from empirical analyses of longitudinal and cross-linguistic data, I will suggest that the position of temporal adverbials in an early lexical stage of acquisition functions as a mould for plugging in free morpheme markings of tense and aspect in a later morphological stage of acquisition. The structural properties of lexical temporal adverbials like *nog* shape the structural properties of the emergent tense and aspect markings in the later stages of acquisition. I explain this information organisation with the general learner principle that learners put together what belongs together before the target language-specific (morpho)syntactic properties come into play.

The general approach adopted in this study starts from the assumption that there is a limited number of phrasal (morphosyntactic), semantic, and context-related (situational and discourse) organisational principles at work in learner languages and that their interaction determines the actual organisation of a learner
variety at a given time. These principles are very well reflected in the “basic variety”, a language variety that according to Klein and Perdue (1997) is developed after a while by all learners. They claim that a basic variety is a well-structured, efficient, and simple form of language whose organisation constraints belong to the core attributes of the human language capacity. One of the most typical features of the basic variety is that it consists of lexical stems. There is no morphological inflection. The adopted approach also considers communication difficulties as crucial in understanding what may push the learner to further acquisition and to leave the flexible and safe basic variety. Communication difficulties are defined as clashes of the basic organisational principles. The challenge of this study is to pinpoint as precisely as possible these communication difficulties and shortcomings.

1.5 The learner’s propensity to acquire

What are the communicative needs of a second language learner? In the case of migrant workers, like most of the informants of the present study, these communicative needs are often vitally important. The learners have to seek a job and a place to live, they have to ask for social services and where to buy bread. It is clear that these needs are totally different from those of a child learning his or her first language. Slobin (1993: 153), whose major research field is child language acquisition, says that he is struck by the successes of (migrant) second language learners. They have so much working against them:

- Whatever may be the advantages of youth (critical period etc.) these learners have begun with some degree of 'biological handicap'.
- Their communicative needs are vastly more complex and vital than are those of pre-school age children, and their communicative tools are inadequate to those tasks.
- They cannot count on the world to provide them with food and shelter while they are learning how to communicate.
- They cannot help but process the target language through filters that have developed for another purpose - to perceive and produce source language sound patterns and map them onto source language conceptual schemes.
- They have learned to use language within a socio-cultural matrix of norms and expectations different from those of the host society.”

Still, migrant L2 learners acquire the new language without a guarantee of success as is common in first language acquisition. The adult Moroccan and Turkish learners of the present study have to communicate to get things done but at the same time they also have to acquire the basics of the new language in order to communicate. What are these basics? More particularly in the perspective of the present study, what are the basic skills in French and Dutch that the learner has to acquire in order to successfully express temporal relations? The overall picture
that emerges from my empirical analyses is that of a developing system which first allows the expression of temporal relations via discourse means and temporal adverbials. Then follows a stage where finer temporal distinctions can be expressed through the clever management of the interaction between structural and semantic properties of adverbials in conjunction with the internal temporal characteristics of the event denoted in the utterance towards the development of verbal morphology. The acquisition pattern can be roughly divided into two stages, a lexical stage and a morphological stage, in this order. The acquisition of the last stage implies that the learner leaves the safe and stable lexical basic variety. Why?

It is generally assumed that such a step is a long and complicated process. Do learners develop inflectional morphology because their social environment exhibits this kind of linguistic behaviour? Or are there system-internal reasons, such as temporal relations that lexical adverbials alone cannot express, which drive the learner to develop morphological means? To the extent to which the latter is the case, that is, to which the acquisition of morphology is more than mimicking the input, I want to provide some evidence in this study.

1.6 The organisation of this study

This study consists of nine chapters and is divided into two main parts, a theoretical part (chapters 2 to 4) and an empirical one (chapters 5 to 8). Chapter 2 describes the analytic temporal framework which, in combination with a discourse framework, serves as a basis for the empirical analyses in this study. I discuss three ways to mark temporal relations and characteristics. These are morphological tense and aspect markings (section 2.1), lexical temporal adverbials, and internal temporal properties of verbs (section 2.2), and principles of discourse organisation which act as a default interpretation (section 2.3). In section 2.1, I explain why I have adopted Klein’s Basic Time Structure (1994) and not Reichenbach’s (1947) tripartite system of E (point of event), R (point of reference), and S (point of speech). I present Klein’s definitions of the three relevant temporal parameters, i.e. topic time TT, time of situation Tsit and time of utterance TU, and show in detail how Klein’s definition of the topic time TT gives content to the rather vague and multi-interpreted point of reference R. Section 2.2 describes the lexical ways of expressing external temporal relations by deictic positional adverbs and internal temporal expressions by adverbs of durativity, contrast, and frequency. Special attention is paid to the scope properties of temporal adverbials which, as far as I know, have never been studied in relation to second language acquisition. I finally point to the question of whether lexical temporal adverbials can compensate for the morphological marking of tense and aspect.

In section 2.3, I present three discourse organisational principles which I consider essential for investigating the interaction between local utterance and
global discourse means for expressing temporal relations. The presupposed shared knowledge of these information organisation principles allows the establishment of temporal inferences on the basis of (situational or discourse) context without the necessity of linguistic means rendering the temporal relations explicit. This is essential for a study of second language data because implicit discourse pragmatic means can establish temporal relations in discourse without the necessity of developing further lexical and morphological means. To show that these discourse organisation principles are not only important in minimally equipped learner varieties, I describe the extreme case of Yukatek Maya (cf. Bohnemeyer 1998), a fully-fledged language in which the interpretation of the temporal ordering of events in discourse mainly relies on implicit pragmatic discourse principles.

In chapter 3, I give a survey of some selected features of the linguistic means for the expression of temporality in the source languages Turkish and Moroccan-Arabic, and in the target languages Dutch and French. Special attention is given to a cross-linguistic comparison of differences and similarities in the way temporal concepts are grammaticalized or not in these languages. This “contrastive analysis” is taken into account while formulating some of the the predictions for acquisition in the empirical part of this study.

Chapter 4 reviews pertinent literature on the methodological and theoretical considerations of the research of the acquisition of temporality in a second language (section 4.1), its previous findings (section 4.2), and the theoretical explanations of these findings (section 4.3). A main distinction is made between those studies which take a temporal function or concept as a starting point of their analysis (function-to-form studies) and those which trace a form (e.g. a morpheme on the verb) and look at its distribution in the learner data (form-to-function studies). The former studies are interested in the total repertoire of linguistic means that learners develop for expressing temporality, the latter ones are mainly interested in the verbal inflections of tense and aspect. The form-to-function analyses can be further divided into two groups according to the function of the morphemes that they investigate, as markers of lexical aspectual category or of discourse organization. I propose to re-integrate the ‘classic’ grammatical aspect before grammatical tense hypothesis because I do not want to exclude beforehand a grammatical aspect or grammatical tense function of emergent morphological means (e.g., auxiliaries and inflections).

In the empirical part of the study, I start in chapter 5 with an elaboration of the main research questions and hypotheses of the present study (section 5.1). Then more specific information is provided in section 5.2 on the seven key informants involved in this study. Section 5.3 describes the verbal tasks these informants were asked to carry out during the data collection. I then explain the general procedure for data-analysis in section 5.4, which consist of a combination of function-to-form and form-to-function analyses. I also explain the selection and the coding of the learner data. Finally, I describe the multi-media possibilities and the structure of the data-set on which the empirical part of this study is based.
Chapter 6 describes the initial repertoire of the second language learners of Dutch and French of the present study. After an elaboration of the procedure for data-analysis for this part of my investigation (6.1), I describe the working of this basic repertoire which consists of a combination of implicit discourse-pragmatic means and lexical temporal adverbials (section 6.2). In section 6.3, I explain how the learners’ clever management of the semantic and the structural (scope) properties of lexical temporal adverbials can potentially block the morphological development of tense and aspect.

The central question addressed in chapter 7 is whether the emergent morphological tense and aspect markings (e.g., auxiliaries and inflection) in L2 Dutch do express grammatical aspect, grammatical tense or the lexical aspect of the verb. First of all, I review what other researchers trying to answer the same question have said about how the learners of Dutch I follow in the present study developed verbal inflection (section 7.1). In section 7.2, I first explain the procedure of the function-to-form discourse analyses, which consists of analyses of what I refer to as “diagnostic contexts”. The reality ‘check’ of the stimulus (the Modern Times film fragment (1936) which had to be retold by the informants) allows the researcher to give temporal or aspectual meanings to the various temporal adverbials, connectives, preverbal auxiliaries and morphemes on the verb. I then present these discourse analyses in great detail for each informant (7.3). In section 7.4, these findings are compared to personal narratives and to data from other informants. In section 7.5, I show how I carried out form-to-function frequency analyses in order to see if there is a distributional bias of particular morphemes (including auxiliaries) towards certain semantic types of verbs in the Modern Times data. To conclude, I present a developmental overview of all verb forms that occur in the total data-set.

Chapter 8 provides a cross-linguistic comparison with the French data and follows the same procedure as chapter 7. First I review previous findings on the same data (section 8.1). Then I present the function-to-form analyses of the same diagnostic contexts as I analysed for the Dutch data (section 8.2). I also compare them to another type of data, namely personal narratives (section 8.3). Finally, in section 8.4, I check the lexical aspect hypothesis by looking for correlations between a particular verbal morpheme (including auxiliaries) and a particular semantic type of verb in the Modern Times data.

Chapter 9 provides an overall picture of the acquisition process of the learners in the present study. First, I summarize the two main conclusions of the present study (section 9.1). Then, in section 9.2, I recollect the establishment of the temporal and the discourse-analytic frame-work which forms a substantial part of the present study. In section 9.3, I present a stepwise description of the most similar structural and semantic properties of the temporal linguistic devices at each stage of acquisition of the Moroccan and Turkish learners of Dutch and French. At last (section 9.4), a more tentative answer is given to the central question of this study: why do learners move on?
Chapter 2

Time concepts
and their expression in language

The concept of temporality has occurred in a wide range of linguistic approaches, variously associated with morphology, finiteness, a (discourse) pragmatic or semantic definition, or with a combination of these. This means that the literature on temporality is extremely rich but also inconsistent in its findings, its approaches, and above all in its terminology. The main purpose of this chapter is to provide an analytic temporal framework which, in combination with a discourse framework, serves as a basis for the empirical analyses in this study of temporal references in second language learner varieties. General linguistic theories about temporality often concentrate heavily on morphosyntactic markings of temporality, i.e., tense and aspect. Acquisition studies on temporality seem to follow this “inflectional paradigm bias” and they often confound the acquisition of temporal reference with the acquisition of verbal morphology. This misstatement yields an incomplete and misleading picture of the developmental process and it makes cross-linguistic comparisons almost impossible because of the high degree of language-specificity of, for example, past tense and present perfect markings. However, I think one of the most serious consequences of concentrating exclusively on tense and aspect is the risk of missing the most essential and interesting aspects of the learner’s capacity to express temporality: the interplay between implicit (contextual information), lexical (temporal adverbials, henceforth tadvs), and morphosyntactic devices (i.e., verbal auxiliaries and affixes).

The primary concern of this study is to discover the explanatory force that appears to be responsible for the development of all types of linguistic markings of temporality in second language learner varieties, and the particular shape of this development. For cross-linguistic and developmental purposes, we need a language-neutral framework which can handle the changing interaction over time between the various linguistic temporal devices at the morphosyntactic, lexical, and discourse-level. To this end, an analytic framework is proposed which draws
mainly on Klein (1994), following the classic three parameter approach (Paul, 1872). Although the Reichenbachian tripartite system is widely used in the acquisition literature, I have opted for Klein’s account because it is the only one that clearly distinguishes external (tense, aspect, and positional adverbials) and internal temporal features of linguistic devices (“Aktionsart” and temporal adverbials of duration etc.). My particular interest is in (the scope properties of) temporal adverbials because these lexical devices play a primary role in learner varieties.

The second part of this chapter examines the interaction between temporal reference at the local utterance level and at the global discourse level. As I have said above, the functioning of temporality is always based on the interaction between what is explicitly said in the words and what is left to contextual information. This interplay is two-fold; implicit discourse pragmatics conveys a crucial contribution to the temporal coherence in a sequence of utterances and at the same time these principles of information organization determine which explicit linguistic devices are used at the local level. This balance between implicit discourse pragmatics and explicit linguistic markers is extremely important in learner varieties of language and changes over time. At the beginning stages, learners do not use the full range of lexical and morphosyntactic temporal devices which provide cohesion in target language performance. It is only at the latest stages of development that (some) learners process to the morphologisation of linguistic markings in order to organise the temporal information in their discourse.

In the first section of this chapter (section 2.1), I present Klein’s (1994) Basic Time Structure (henceforth Klein’s BTS), a temporal framework that in a language-neutral way can handle cross-linguistic and developmental comparisons of learner varieties. I give reasons for not opting for Reichenbach’s multi-interpreted account and I explain how Klein’s BTS is related to Reichenbach’s approach to temporal relations. In addition to this temporal framework, in the second part of this chapter (section 2.3) I discuss three types of discourse principles which act as default constraints in the organization of (temporal) information in discourse: the Principle of the Natural Order of events (Clark 1971, Labov 1972, henceforth PNO), Klein and von Stutterheim’s Quaestio-model (1986), and Bohnemeyer’s (1998) Boundary-to-Order principles which I refer to as Bohnemeyer’s BTO-model. This is a discourse framework that allows to carry out analyses of the temporal order of events in discourse on the basis of explicit or implicit information of boundaries of these events in discourse. The combination of these frameworks gives me the tools to define most of the terms needed in order to conduct an empirical analyses of temporal reference in learner discourse as described in the later chapters.
2.1 Temporal relations: A three parameter approach

This is not a study about theories of tense and aspect. I do not compare the most popular frameworks for temporal notions and try to take the best one. This means that this work does not aim to offer the optimal theory of temporality, i.e., the relation between the mental concept of time and its expression in language; such an endeavour would be too naive given the complexity of this domain of language and is, in any case, not my primary concern. The primary concern of this study is to analyse the way an adult learner, without substantial exposure to classroom-teaching, breaks down, at least to some extent, the complex concept of temporal relations as it is encoded in the target language. Moreover, the comparative cross-linguistic framework of analysis of time-reference that I have adopted in this study should also provide original evidence on the way in which temporality is organised in language. An adult learner’s struggling with the semantics of time in a second language can shed some light on the underlying concepts as well.

I first start from the conceptual side: how are ‘common’ temporal notions expressed by speakers at different levels of language proficiency? This question immediately raises two problems. The first problem is, what are “common” temporal notions? The second one concerns the form of expression. With respect to the latter problem, it is known that in many studies of language acquisition the expression of temporality is often equated with morphosyntactic tense and aspect forms. In this study, I do not want to exclude all the other possibilities that languages in general provide in order to convey temporality. Besides the obvious and often studied grammatical devices, languages also exploit temporal adverbials and pragmatic means -principles of order, implicit reference, etc.- which languages exploit for conveying temporal concepts. In fact, the distinction between lexicalization and grammaticalization of temporal means in terms of obligatoriness and morphological boundedness consists of many borderline cases (Comrie 1985). Moreover, grammatical devices like auxiliaries and morphemes on the verb are often not acquired or are acquired very late by second language learners. Learners of a second language, especially those who already dispose of a conceptual and a formal system representing temporality, can be expected to look for distinguishing (morphosyntactic) forms in the target language in order to convey the temporal distinctions they know. This makes it very difficult to analyze the form-function distinctions made by learners which often do not correspond to the form-function distinctions in the target language.

With respect to the problem of how to define conceptual universals of temporality, I start with the following question: is the way we think and speak about temporality not totally dependent on the way it can/has to be expressed in a particular language? Do native speakers of French have different conceptualizations of time than speakers of Russian? Don’t we all have to follow time’s arrow in our comings and goings and in our speech? The relation of linguistic expression to mental impression can not be a direct or unique one. It is
not the case that for each object/concept in reality there is an individual distinguishing expression. The Greeks might never have discovered the three tenses, Past, Present, and Future, if they had not developed the idea of analogy. This three-time, three-tense view of the verb has since become an integral part of the Western grammatical tradition *he slept, he sleeps, he will sleep.* For a long time (maybe two millennia) grammarians and students have tried to describe all the “temporal-like” markings on the verb in various Indo-European and non-Indo-European in the three-tense system. Then it turned out that some languages have too many and some languages too few or no tense marking on the verb at all (but do have an important aspect marking like Chinese, Yucatek Maya, and Classical Arabic; see also Binnick, 1991: 7-9). Is it then impossible in tense-less languages to refer to time? Do speakers of these languages have a different concept of time?

Previous analyses of their temporal reference system have showed that these languages have other linguistic means to refer to Past, Present, and Future, like temporal adverbials and particles (Caubet 1986, Li Ping 1989). Time-reference in these languages can also be heavily based on pragmatic implicatures arising from aspect markings, world-knowledge, and surrounding context (see Bohnemeyer 1998, Caubet 1986, Li Ping 1989). The same reasoning applies to aspect-less languages, if these do exist (see Dahl 1985). German, like Dutch, for example, is said to be an aspect-less language. These languages do not show the same explicit and wide range of morphosyntactic aspectual codings on the verb as English or Turkish. However these languages do offer other linguistic possibilities, as I will explain later. The challenge for linguistic theories on tense and aspect marking must then be to explicate the use of these other means in languages and language varieties without morphosyntactic tense and aspect markings in order to convey information about situations and events in time. It is also the challenge of this study to describe the changing interaction between pragmatic, lexical, and morphosyntactic devices in the acquisition of a second language. Therefore we need a basic concept of time.

Such a concept of time—a Basic Time Structure—is defined by Klein in his book “Time in Language” (1994). The BTS is based on a three parameter approach of time Paul (1872). His definition of tense, aspect, and inherent temporal characteristics of time spans has already been shown to function as a temporal framework which allows the comparison of temporal systems in different (mainly Indo-European) languages and in different learner language varieties (see Dietrich et al. 1995). It includes the notion of the entities between which temporal relations exist (the time spans themselves) as well as a characterisation of the possible relations between them such as before, partly before, after etc. This means that it accounts for deictic and anaphoric relations between time intervals (conveyed by tense, aspect, and/or temporal adverbials) and for inherent temporal characteristics of time intervals (often called “Aktionsart”). For this study, I use a rather minimal version of Klein’s elaborated framework which defines the notions of grammatical tense and aspect, the notion
of inherent lexical features of the verb ("Aktionsart"), and the function of temporal adverbials.

In order to analyse the language variety of "real" beginners of a second language, morphologically-based theories of tense and aspect are useless. Looking at the utterances of these learners, it can easily be seen that verb morphology is not a necessary precondition for telling quite complex personal narratives, with a dense web of temporal relations. In example (2.1), which comes from Ergun, a Turkish learner of Dutch, we see how beginning L2 speakers manage to anchor events in time by means of lexical items such as calendric descriptions, or by deictic reference, direct speech, anaphoric 'after' (dan), and special discourse organisation principles:

(2.1)

<table>
<thead>
<tr>
<th>Dutch</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>vandaag hoofdpijn</td>
<td>today headache</td>
</tr>
<tr>
<td>ik ga niet naar fabriek</td>
<td>I go not to factory</td>
</tr>
<tr>
<td>ik vanmorgen</td>
<td>I this morning</td>
</tr>
<tr>
<td>half negen ik bellen</td>
<td>half past eight I phone</td>
</tr>
<tr>
<td>&quot;ja ik komt niet vandaag&quot;</td>
<td>&quot;yes I come not today&quot;</td>
</tr>
<tr>
<td>&quot;ik ben ziek&quot;</td>
<td>&quot;I am sick&quot;</td>
</tr>
<tr>
<td>vandaagavond zes uur</td>
<td>today evening six o'clock</td>
</tr>
<tr>
<td>ik heb slapen</td>
<td>I have sleep</td>
</tr>
<tr>
<td>dan klein beetje lopen</td>
<td>then a little bit walk</td>
</tr>
<tr>
<td>dan ik gaan naar cafe of zo</td>
<td>then I go to pub or so</td>
</tr>
</tbody>
</table>

In contrast to what several researchers have found (e.g., Andersen 1991, Andersen & Shirai 1994, Bardovi-Harlig 1998, Flashner 1989, Giacalone-Ramat 1992, Housen 1994, Robison 1995, Schumann 1987, Shirai & Andersen 1995), this example shows that the very nature of these natural data precludes the coding of the distribution patterns of tense and aspect morphology, because there are no such patterns. In fact, it is often the case that in these basic learner varieties, there is no verb at all.

Klein’s Basic Time Structure (BTS) offers a temporal framework which makes the different individual language learner systems comparable. This is because it is not based on a formal criterion like the use of verbal inflection; the comparison is based on semantic categories. Notions like PAST, PRESENT, and FUTURE; IMPERFECTIVITY versus PERFECTIVITY; and DURATIVITY versus PUNCTUALITY are all explained in Klein’s compositional frame-work of external temporal relations and inherent/internal temporal features.

2.1.1 Why not a Reichenbachian account?

In the literature on temporality, the tripartite Reichenbachian system (1947) of the point of speech (S), the point of event (E) and the point of reference (R) is often mentioned to describe the three essential time-spans yielding the traditional notion of tense. However, there are a number of problems associated with Reichenbach’s
system (see also Binnick 1991: 111-116). The first problem is that his definition of the three temporal parameters is so to say pointless; they consist of time points instead of time spans. This has a number of implications for his total temporal system; time points cannot include each other whereas the difference between the aspectual notions imperfectivity and perfectivity have to be explained in terms of time spans which can include each other, as we will see below.

Another problem is that whenever a temporal relation is expressed, be it by a grammaticalised category such as tense or aspect or by lexical means such as temporal adverbials, then there is typically a functional asymmetry between the two time spans involved. One of the time spans called here the ‘relatum’ is supposed to be given, and the other one, the ‘theme’, is then temporally related to this relatum. The traditional Reichenbachian notion of tense, takes the time of situation (E) to be the theme; tense serves to locate some event E in the broadest sense of the word, into the past, present, or future. Reichenbach presents “nine fundamental forms” which he labels “anterior” when E precedes S, “posterior” when E follows S, and “simple” when E coincides with S. Klein (1994: 15-23) gives a number of arguments why this view is not totally correct. The time span located in time is not the time of the situation (E in Reichenbach’s description) but the time for which such an assertion is made (see below).

Thirdly, Reichenbach’s definition of “R” is rather vague and insubstantial. This could be one of the reasons that his theory, which was certainly not the first in a three-parameter form (see Paul 1872), has become so popular. His definition of the reference point R is multi-interpretable: R is an event described in context, R is given by a temporal adverbial in the utterance, R is given by a subordinated clause, etc. Reichenbach’s theory does not account for the fact that a temporal adverbial in an utterance can specify a time span other than the reference time. It can, for example, also specify the time of situation in an utterance. Consider an utterance like (2.2):

(2.2) He had left yesterday at three o’clock

It is not clear if yesterday at three o’clock is specifying the reference time (the time of had) or the time of the leaving itself. Consider an utterance like:

(2.3) When I went to his house yesterday, I heard that he had already left four days ago.

The reference time (following Reichenbach’s system) of the matrix-clause is given by the subordinated clause, yesterday when I went to his house. What then does four days ago specify in the matrix-clause? In this utterance (2.3), it is clear that the temporal adverbial four days ago does specify the time of leaving. It can not be the reference time given by the subordinated temporal clause which is yesterday. In the first utterance (2.2), it is not clear if yesterday at three o’clock be had already left (then the tadv is specifying the time of bad, the reference time) or that yesterday at three
This interaction between the position of temporal adverbials and their function are the seeds of the interaction between scope properties of temporal adverbials and their temporal function in the utterance to be discussed later.

Reichenbach identifies one interpretation with the French prospective je vais partir 'I'm going to go' (S,R-E) and the other with the French future je partirai, ‘I shall leave’ (S-R,E), depending on the initial or final position of the adverbial in the utterance. This result is following Binnick an artifact of Reichenbach's failure to recognize that adverbials may relate to different times within the same sentence:

"In I shall go tomorrow the future reference point is not indicated by the adverbial; compare he knew that he was going to go tomorrow, with past reference point. Rather the reference point is assumed; in discourse or text it would be gotten from the context. The future tense is not ambiguous as regards the relationship of R to S, although, as we have indicated, it is aspectually ambiguous (Binnick 1991: 134)."

Comrie (1981) also points out that Reichenbach’s system is too rich. In the case of a past or future perfect, the only thing that matters is that R follows S (future) or that R precedes S (past) and that E precedes R (perfect). The future and past perfect does not state anything about the relationship of E to S. So, instead of treating the future perfect as three ways ambiguous (S-E-R, S, R-E and S, E, -R), as Reichenbach does, Comrie proposes two paired orderings of E and R, and R and S.

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1 This interaction between the position of temporal adverbials and their function are the seeds of the interaction between scope properties of temporal adverbials and their temporal function in the utterance to be discussed later.

2 I believe that Binnick’s explanation is incorrect. What is happening in utterances like Now I shall go (tomorrow) is that the time of speech is further specified by now (the present). In the case of a future tense as in (Now) I shall go (tomorrow), the only relation that matters is the relation between S and R (R > S). This relation is marked by the future tense and R is specified by tomorrow. In the utterance he knew that he was going to go tomorrow, with a past reference time, it is impossible to have a relation of R after S, R must be before S marked by the past tense, and it is the aspectual prospective marking going to which indicates that E is after R.
Below we shall see that Klein’s proposal for a precise definition of “R” and, in addition, the separation of tense and aspect relations (by explicitly identifying the separate roles of R-S and R-E) allows a better explication of the presumed ambiguities described above.

2.1.2 Klein’s Basic Time Structure

Klein (1994) uses the following definitions of the three parameters involved in his BST: (1) the topic time, (2) the time of utterance, and (3) the time of situation. The topic time TT is the time span in the past, present, or future for which an assertion is made in the utterance. The temporal relation between the TT and the time of utterance TU gives past, present, or future tense (not all utterances make an assertion, but that is not relevant here; see Klein 1994, chapter 11). This grammatical marking of tense in Indo-European languages is often associated with the finite verb. It is important to distinguish the time for which an assertion is made TT from the time at which a situation Tsit (as referred to by the utterance) occurs. This latter time is called the time of situation Tsit and it is associated with the non-finite part of the sentence/verb (for example, in case of an auxiliary plus a main verb, the main verb is considered to be non-finite).

In Klein’s view, aspect too can be reconstructed as a temporal relation, viz., the relation between the particular time spans in the tripartite system. Aspect is, in fact, the relation between the time of assertion/topic time TT and the time of event/situation itself Tsit, which is normally expressed by the verb and its arguments. The relations which can obtain between the three essential time spans are purely temporal such as BEFORE, AFTER, (partly) SIMULTANEOUS relation. In short, the Basic Time Structure gives the following definitions of temporal relations:

(a) The elements of the temporal structure are time spans, not time points (labelled here as t, t′, etc.).
(b) There are two types of relations between time spans:
   (a) order relations, such as t; ′after’ t; t > t; t; ′before’ t; t < t;
   (b) topological relations, such as: t; ′is included in’ t and t; ′overlapping’ t;
   at and t overlap, i.e., they have a common subinterval.
(c) Tense is the temporal relation between topic time TT and time of utterance TU.
(d) Aspect is the temporal relation between topic time TT and time of situation Tsit.

These temporal relations are called external temporal properties and can be expressed by tense and aspect morphology, and by positional temporal adverbials (see 2.2.2), and they show up in principles of discourse organisation (see 2.3). These external temporal properties must be distinguished from internal temporal properties which are either part of the inherent properties of the lexical content of verb, or can be marked by other types of temporal adverbials (e.g., of duration,
see 2.2.2). One of the important advantages of this distinction between external and internal properties of time spans is that it solves the problem of the ambiguous term “aspect”, which in the literature often ambiguously refers to both grammatical and lexical aspect. This ambiguity is the main source of confusion in many studies on the acquisition of temporality and it makes the comparison of frameworks and results difficult. I discuss grammatical aspect and tense in the following section as an external temporal relation between the two relevant time spans.

2.1.3 Tense and aspect: External temporal relations

As I have already said, Klein distinguishes three temporal parameters: the time of utterance TU, the time of situation Tsit, and the topic time TT (which is often incorrectly considered to be the same as Reichenbach’s R). Tense is traditionally defined as the grammaticalised expression of location in time (Comrie 1981: 9). The question is which of the three time spans we locate in time by a morphological past tense marking such as:

(2.4) John sang

In traditional analyses, the time span to be located in the past would be the time of the event (Tsit), the time of the singing. Klein, however, makes it very clear that tense is a matter of how the topic time TT relates to the time of utterance TU and not of how the situation time Tsit relates to the time of utterance TU. Consider, by way of illustration, his example in the introduction to his volume:

(2.5) Yesterday, John was ill

This utterance says nothing about John’s health at this moment, the time of speech. There is no relation between the situation time Tsit John being ill (E) and the time of utterance TU ‘now’ (S). The assertion this sentence makes is an assertion for the time span yesterday (or, if you like, this state of affairs is claimed to be true for the time span ‘the day before today’) and says nothing about John’s health today. At this moment, he can be better or he can still be ill. Hence, as Klein says (p 24), we must carefully distinguish between the time of the situation (John’s illness), which is selectively described by the utterance, and the time for which an assertion is made by this utterance. In contrast to traditional notions, tense is defined by the temporal relation between TU (the moment of speech) and TT (the time we are talking about) and not between TU and Tsit (the time of the event).

Furthermore Klein states that, in Indo-European languages, tense is often marked morphosyntactically by a present, past or future tense inflection on the finite verb, depending on the relation of the topic time to the time of utterance.
(which can be at, after or before). Thus, in example (2.6a), the topic time is in the present and this is marked by the present tense form *walks*. In (2.6b), the topic time is in the past, marked by the past tense form *walked*. In (2.6c), the topic time is in the future, marked by the future tense *will walk*.

### Tense

(2.6)  
- a. He walks present (tense): $TT = TU$  
- b. He walked past (tense): $TT < TU$  
- c. He will walk future (tense): $TT > TU$

This configuration of the two relevant time spans that establish different tenses according to their topological or order relationship, can be captured in the simple illustration in figure 2.1.

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**Figure 2.1** Differentiation of the three relationships of TT and TU establishing present (a), past (b), and future (c) tense.

Here I have to recall that early or fossilized learner varieties do not show this tense marking on the verb. As I have said before, they often do not contain a verb at all. Classical Semitic languages (like Classic Arabic) and Chinese also lack tense marking on the verb and there has been a debate over what their verbs do mark, “aspect”, for example (Binnick 1991, chapter 8). Even languages that are now tensed, lacked grammatical tense marking in their early varieties. What is required is an account of how tense-less languages (early learner varieties included) indicate temporal distinctions. This is exactly why I opted for Klein’s Basic Time Structure as the analytic tool to help me finding out how learner varieties “lacking” explicit morphosyntactic tense (and aspect, see below) markings express the relation between topic time TT and time of utterance TU. Klein’s definition of tense as a temporal relation between TT and TU is an abstract temporal relation, not necessarily an explicit morphosyntactic marking on the verb. This means that this
temporal framework offers the possibility to analyse the functional relation between a topic time and a speech time no matter how it is marked in the learner variety (e.g., by auxiliaries, verbal affixes, lexical temporal adverbials, or in an implicit way).

**Aspect**

A new feature in Klein’s approach is that aspect too can be described as a temporal relation, that is the relation between the topic time TT and the Tsit. This makes his approach less metaphorical than other frameworks, where “grammatical” aspect is often explained in terms of “seen as a bounded whole” (Bybee 1992) or “partial” or “full” views (Smith 1997). It is important to note here again, that the precise form in which temporal aspecual relations are linguistically encoded varies from language to language. In the examples in (2.7a)-(d), we see a description of the situation <he walk>. In Klein’s BTS, the aspecual notions are defined like this:

(2.7)  

<table>
<thead>
<tr>
<th></th>
<th>TT ‘is included in’</th>
<th>Tsit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>He is walking now</td>
<td>TT</td>
<td>Tsit imperfective</td>
</tr>
<tr>
<td>b.</td>
<td>He walks</td>
<td>TT ‘includes’</td>
<td>Tsit perfective</td>
</tr>
<tr>
<td>c.</td>
<td>He has walked</td>
<td>TT</td>
<td>Tsit perfect</td>
</tr>
<tr>
<td>d.</td>
<td>He is going to walk</td>
<td>TT</td>
<td>Tsit prospective</td>
</tr>
</tbody>
</table>

As an illustration, the scheme in figure 2.2 shows that the topic time of (2.7a) is a time span which is included in the time of situation at which he is walking and which is simultaneous with the time of utterance.

![Figure 2.2](image)

**Figure 2.2** Imperfective aspect as the topological relation between TT and Tsit

In (2.7a), the present TT is marked by the finite part of the verb ‘is’. The grammatical aspect marking *is* + *ing* indicates that the TT is (properly) included in the Tsit (imperfective). This explains the use of ideas like “viewing without boundaries” for the use of the imperfective. Note that these aspecual (and temporal) concepts are notional in the sense that languages can use an explicit aspecual coding which can combine two or more of these notions in one coding. There are also languages (like German) which are said to be largely aspect-less and in which, for example, the perfectivity-imperfectivity aspecual distinction is not overtly coded but arises mainly from the inherent temporal characteristics of the verb meaning (see section 2.2.1 below).
2.1.4 The aspectual viewpoint as a camera lens

Although in general the metaphorical descriptions of aspectual notions are theoretically less clear than the specific defined temporal relationships that Klein proposes in his BTS, it will help to illustrate the definition of the aspectual relation between TT and Tsit with the metaphor of a video camera and its camera lens. This is just a way of representation and I am certainly not the first to compare grammatical aspectual viewpoint with a camera lens (Smith 1991, 1997, Comrie 1976). If we imagine the TT as a video camera which can zoom in on particular parts of a total event time, then the pure temporal description of the relation between the time spans TT and Tsit, between the (time span of the) video camera and the time of the event at which it is shooting, becomes much clearer. The difference between the imperfective versus perfective aspectual viewpoint on events can be defined imagining the topic time TT to be a camera which shoots at a selected part of the total time of situation. If the camera shoots in the middle of the action/situation of a total time of situation I call this “imperfectivity” (“seen without boundaries”), if the camera shoots at the total action/situation, including its end, I talk about “perfectivity” (“seen as a completed whole”). In the imperfectivity-perfectivity contrast this boundary-contrast plays an essential role, in the perfect-prospective contrast it is the dissociation of the topic time and the situation time which is essential, as we will see.

**Imperfectivity and perfectivity**

Take the example of Klein (1994: 39-40) in which he introduces the notion of topic time:

(2.8)  

| a. What did you notice when you entered the room? |
| b. A man was lying on the floor. |
| c. He was Chinese or Japanese |
| d. He did not move |
| e. A woman was bending over him |
| f. She was taking a purse from his pocket |
| g. She turned to me |
| h. She said: |
| i. They have gone |

The first sentence could be a question asked by a judge in court, with (2.8b)-(i) representing the answers of the witness. (2.8a) defines a time interval, the time interval which the video camera occupies at the time axis - the time starting with the witness’ entrance and leading up to the woman turning to the witness- with respect to which (2.8b)-(g) are asserted. This is the global topic time of the entire discourse. The events described in (h) and (i) are asserted for a time interval following the time interval defined in (a) for reasons we will explain later. Imagine now a video camera which focuses on the room and imagine that the video camera is stabilized on a standard at the time axis in the past, *yesterday at exactly three o’clock.*
then this is the default (local) topic time (see figure 2.3). This TT is more or less the same as the time of entrance; the simple past (perfective) marking indicates that the time of entrance Tsit is included in this TT. From this (local) time span TT on the time axis, all the events seen by the witness (i.e., the video camera) (a)-(i) are retold. Whether the local TT shifts or maintains this position on the time axis depends on the aspectual viewpoint marking which metaphorically directs the standard of the video camera. This means that at that particular time span some events are the same as they ever were, e.g., “he was Chinese or Japanese”; they are a-temporal (--------). Other events/situations are not a-temporal but they were already going on for some time: “a man was lying on the floor”; “she was bending over him”, and could go on for a while after this TT (|-------|). The witness does not make any claim about the left or right boundaries of these situation times within the zoom range/the topic time interval of the video camera (|---[video]---|). Because of the fact that the situation times of these events are not given a right boundary within the range of the video camera (i.e., the TT, the scene the witness sees), these events do not seem to be shot in a sequence but to temporally overlap each other. Notice that this simultaneity is not overtly marked by temporal adverbials indicating simultaneity like while. It is the progressive form (the aspectual viewpoint marking, Smith 1991) which offers a temporal frame in these cases (see Jespersen 1931, chapter 12.5) for another time interval, notably that of some event talked about in a subsequent utterance. The topic time camera does not have to shift on the time axis, it can shoot more events at the same time.

However, in (g), it is clear from the aspectual perfective viewpoint marking of the turning event that it must be definitely after the woman turned to the witness that she said something. The right boundary of the turning event time is asserted within the TT (—[-----]|) and the Tsit of the saying event starts after the right boundary of the turning event. Notice again that this sequence of events as opposed to simultaneity of events, is not marked by temporal adverbials/connec-
tives like after or and then. During the subsequence of utterances (g) and (i) the camera must have been shifted from its starting point yesterday at exactly three o’clock to a later time span yesterday at three o’clock and 10 seconds (or any later time span). You cannot try to take a purse and turn to someone else at the same time. The problem is that you cannot know exactly when the woman turned to the witness; the imperfective aspect indicates no right boundary within the projection range of TT (= the videocamera). The simple (perfective) past of she turned to me indicates that the TT totally includes the Tsit of the turning, so the end/right boundary of the event-time of turning is also in the camera lens.

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3 If two subsequently coded events are presented as bounded, one is led to assume that they are asserted for different TTs, and hence infer a shift of TT (cf. Bohnemeyer 1998: 112).
The entire turning event from beginning to end took place at this shifted TT. The quoted speech of the witness *she said* which is described in the next utterance must then follow the turning event, because of the right boundary of the preceding turning event. The topic time is shifted, the aspectual marking simple (perfective) past indicates again that the shifted TT includes the beginning and the end of the saying event time and that the TT of saying is still before TU. Note, however, that in the quoted speech another TU is introduced TU* which is the TT of her saying what she said (=present). This possibility of establishing a TT=TU* present tense temporal relation in a piece of past discourse where TT is in fact before TU via
quoted or direct speech is a very productive strategy in second learner varieties.

These circum-descriptions of the pure temporal relation between TT and Tsit by means of a camera and its lens explain our intuitions about differences between an imperfective notion, “a man was lying on the floor”, “she was bending over him” (seen without boundaries) and a perfective aspectual notion, “she turned to me” (seen with a clear right boundary). What these aspectual viewpoint notions actually express is the temporal relationship between the position of the video camera on the time axis and the time that the event actually takes place. These two different time spans can include each other (TT < Tsit = imperfective or Tsit < TT = perfective) and then they are simultaneous, like the events designed in the diagramme above (Figure 2.3). However, these two time spans TT and Tsit can also follow each other (TT < Tsit = prospective and TT > Tsit= perfect) and then they are not overlapping each other.

**Perfect and Prospective**

Imagine again the scene of the crime above and compare (2.8f) she was taking the purse from his pocket and (2.9b, below) she had taken the purse from his pocket.

(2.9)  

a. She was bending over him  
b. She had taken the purse from his pocket  
c. She turned to me

The (past) perfect marking she had taken indicates that the TT is after the Tsit and the camera is only shooting at a trace left by event of the taking the purse. The camera shoots, for example, her hands holding the purse. In that case, the time of situation of the taking the purse must already be over at the default (sub) TT which was still valid for this utterance. Because the perfect marking indicates that TT > Tsit, the time of taking the purse must have been before yesterday at three, say at 14.55. Notice that the camera in that case does not go back to the 14.55 time span on the time axis: the utterance is not asserted for the 14.55 time span but for the three o’clock time span (and then the event was already in its post-state) This is a clear case of dissociation between the time span on the axis where the video camera is (at three o’clock) -the time span one is talking about- and the time of situation (at 14.55) of the event (taking out the purse) which is asserted to be in its post-state at TT.

The same reasoning goes for the prospective marking as we can see in the following examples:

(2.10)  

a. She was bending over him  
b. She was going to take the purse from his pocket  
c. She turned to me

In this sub-sequence of utterances, the prospective marking indicates that the topic
time is before the time of event. The topic time is still at the three o'clock time span but is shooting at the pre-trajectory of the event to happen somewhat later, for example at 15.10.

Summary
The examples above all show that in the adopted temporal framework, the description of the external temporal referential properties of any given utterance can always be narrowed down to three questions:

(1) How is the TT of this utterance determined in context; what is the global TT-TU relation for a related sequence of utterances?
(2) How is the Tsit related to TT at the local utterance level; how is the event encoded in the utterance related to the TT for which the utterance is asserted?
(3) How are the local TT's related to each other?

This means that temporal coherence in discourse is established by the explicit or implicit marking of the global TT-TU relation (tense), the local TT-Tsit relation (aspect), and the anaphoric relation between TT's (before, after or while). It will become clear in the next sections that the way in which a situation time Tsit is linked to the topic time TT (seen by the video camera) depends on grammatical aspectual viewpoint operators like perfective, imperfective, prospective, and perfect markers but also on the internal temporal properties of the verb and its arguments which describe the event. This is usually called “Aktionsart”.

2.2 Lexical ways of marking temporality

In this section, I explain that a supplementary analysis of the inherent temporal properties of the event described in the utterance is necessary because of its influence on the way that Tsit is related to TT. The examples in the last section (2.1.4) have shown that the main influence on the TT-Tsit relation comes from a dissociation of TT and Tsit (perfect and prospective), or not (imperfective and perfective), and a marking of the boundaries of the situation time (perfectivity), or not (imperfectivity), within the projection range of the topic time TT. Different parts of the total event are selected to be asserted at a certain TT or, to say it in other words, to be shot by the camera at a certain time span. An analysis of these aspectual operators in combination with the lexical properties of the verb and its arguments will give us the temporal relationship between TT and Tsit.

In section (2.2.2), I show that tadvs can specify the internal and the external properties of time spans in a very precise way. Then, in 2.2.3, I argue that it depends on the structural embedding of tadvs in the utterance which of the two relevant time spans, TT or Tsit, is specified. Temporal adverbials have scope properties and depending on their position in the utterance they have scope over
the TT or over the Tsit. Finally, I argue that although temporal adverbials can specify virtually all temporal aspects of TT and Tsit, they cannot express an ordering relation between a dissociated TT and Tsit, nor can they express whether or not TT is included in Tsit. This means that tad cannot express a perfect, prospective, imperfective, and perfective marking like aspectual viewpoint markings can.

2.2.1 Internal temporal properties: Aktionsart and lexical aspect

The internal/inherent lexical temporal properties of the verb are often also called "lexical aspect" in the literature in order to distinguish grammatical viewpoint aspect and lexical temporal properties of the verb. In order to make this distinction clear, Smith (1997) talks about the difference between (lexical) situation types and (grammatical) viewpoint types. Klein (1994) notes that it is important to distinguish between a situation as such and the way it is selectively described in a sentence. This already makes it clear that he, just like Smith (1997) and others (Oversteegen 1988, Verkuyl 1988), argues that not only the lexical content of the verb is important for identifying the temporal properties of a situation; it is the combination of the verb and its arguments and the way that they are put together which determines the temporal properties of the selectively described situation. Smith (1997) distinguishes five types of situation: State, Activity, Accomplishment, Semelfactive, Achievement. They differ in the temporal properties of dynamism, durativity, and telicity and can be summarized as follows (Smith 1997: 3):

- **State:** static, durative (know the answer, love Mary)
- **Activity:** dynamic, durative, atelic (laugh, stroll in the park)
- **Accomplishment:** dynamic, durative, telic, consisting of process and outcome (build a house, walk to school)
- **Semelfactive:** dynamic, atelic, instantaneous (tap, knock)
- **Achievement:** dynamic, telic, instantaneous (win a race, reach the top)

The distinction between telic and atelic events depends on whether an event has a natural endpoint or not: a goal, outcome, or other change of state. Telic events have natural endpoints, whereas atelic events do not. This division corresponds to Vendler’s (1967) four basic event structure types of statives, activities (dynamic atelic), accomplishments (durative telic) and achievements (punctual). Although widely used, the Vendler classification is not unproblematic, and it continues to be refined and reformulated (see e.g., Moens 1987, Shirai & Kurono 1998, Smith 1991).

Klein (1994) describes the temporal features of the lexical content of an event/situation according to its link to some topic time:

- **0-state expressions:** be, love; no topic time contrast involved (states; durative + atelic)
1-state expressions: swim, look; at least one topic time contrast involved (activities; dynamic + atelic)

2-state expressions: find, break, die, give a letter, steal a loaf of bread; with an internal TT-contrast for a source and a target state (achievements and accomplishments; dynamic + telic)

This means that world knowledge tells us that a lexical content like <the square of an odd number be odd> and <to be Chinese> are a-temporal, there is no topic time at which this situation is not true. A lexical content like <he lie on the floor> is normally limited in time, there are topic times at which he does not lie on the floor (or he must be as Bohnemeyer (1998) says a habitual “floor-lyer”). Finally, a lexical content like <he die> and <she take a purse> does contain 2 states, a source-state and a target-state and in a temporal order “to be alive, to be not alive” and “to be in source position, to be no longer in source position and under control of the agent”. One of these two states (the so-called “distinguished state”) behaves like the single state of 0-state expressions or 1-state expressions but languages vary in this regard. In this study, I also call 2-state expressions change-of-state expressions.

In the design above (figure 2.3), I did not explicitly mark the two stages that <take out a purse> and <turn to> contain. In the analysis of a verb like <take>, the core part of this lexical content involves a positional change of something, as brought about by the activity of someone. Hence, it includes two states, a source state, abbreviated as SS, and a target state TS. This is in contrast to a lexical content like a <man’s lying on the floor> which comprises one state. Two state lexical contents like <take a purse> can be linked to a TT in various ways: TT can be included the first state, it can include the second state, or it can include a part of the first and a part of the second state. In this particular example this would mean that within the topic time TT yesterday at three o’clock (or within the projection range of the video camera):

(a) the purse is still in the source position (was taking);
(b) the purse is no longer in the source position but under the control of the agent (took);
(c) the purse is first in the source position, then in the target position (had taken).

The lexical content is the same in all cases; what is different is the way in which it is hooked up to TT. This does not mean that a language necessarily distinguishes these three ways of linking a lexical content to a TT in a systematic way, for example, by morphological devices. English, though, does so by the use of continuous, perfect, and simple form. By saying she was taking the purse from his pocket (example 2.8), the witness indicates that, at the time of his entrance, she is still in the first state of this activity. If, at the time of entrance, the second state had been reached already, then the witness, if truthful, should have said she had taken (example 2.9). If she had managed the taking of the purse within the short time of his entrance, then she took the purse from his pocket (example 2.10) would have been
appropriate. So, depending on the inherent temporal properties of the events described in the utterance, the relation between parts of their Tst that are asserted at TT can be different. This is a problem for the analyses of learner varieties. Although most researchers agree that the internal temporal properties of events described in the utterance are not contained in the lexical verb alone (as “inner aspect”, Verkuyl 1988) but in the verb and its argument (Verkuyl’s “outer aspect”), it is very difficult to decide based on the learner” words alone if the lexical content belongs to a 0-, 1-, or 2-state category. Learners at the beginning stages often use one verb for various functions as in the extreme case of search for search and find, or see for see, look, and watch. Do we have to analyse these verbs as 0-, 1-, or 2-state verbs? This problem of analysis is even greater in the case of the use of for example definite or indefinite arguments: the 1-state *be ate sandwiches* versus the 2-state *be ate four sandwiches*. At what stage of acquisition do learners know perceptively and productively the definite versus indefinite forms? This is not the place to discuss how difficult the definite/indefinite distinction is for second language learners, but it is clear that these apparent subtle differences between *je bois un café* ‘I drink one coffee’ versus *je bois du café* ‘I drink coffee’ have a great influence on the lexical aspect of the verb and its arguments. The inherent temporal properties of time spans can also be described by temporal adverbials like *for three hours* but they also can specify external temporal relationships, as we will see in the next section.

2.2.2 Functions of temporal adverbials

Temporal adverbials (TADV) have a broad range of functions in specifying temporal properties and these functions seem to cluster in four general semantic categories (Klein 1994):

- **TAP** Positional adverbials; they specify the position of a time span on the time axis in relation to other time spans (*before*, *after*, *at*) which are supposed to be given in context: *in 1976, yesterday, later.*

- **TAD** Adverbials of Duration; they specify the duration of temporal entities, like time spans and situations obtaining at these time spans: *two weeks, six years.*

- **TAQ** Adverbials of Frequency; they indicate the frequency of temporal entities, like time spans or possibly situations which obtain at these time spans: *often, twice.*

- **TAC** Contrastive anaphoric adverbials which imply a comparison between the interval referred to and another interval, which is contextually implied: *already, still, yet.*

Positional adverbials (TAP) clearly specify the external temporal relationship between two time spans. The position of the time span to be talked about TT is
related to another time span on the time axis which is given in context in an anaphoric (later), deictic (tomorrow), or calendric way (on the 8th of March). Temporal adverbials of duration (TAD) express the internal temporal properties of time spans by specifying their duration and their boundaries. Adverbials of frequency (FREQ) specify their occurrence. The fourth category, the contrastive adverbials (TAC), is more heterogeneous and its precise function is difficult to grasp. However, temporal adverbials play an important role in learner varieties (Dietrich et al. 1995: 25) and the learner’s struggle with both the structural (= positional) and the functional properties of temporal adverbials in a new language will give us a new insight into the temporal properties of all types of temporal adverbials.

Traditionally, authors like Kamp and Rohrer (1983), Hinrichs (1981) and Hornstein (1991) provide a classification of positional Tadv’s (TAP) based on their ability to be interpreted anaphorically and/or deictically. Oversteegen’s “two track theory of time” (1988) differentiates between Tadv’s that can anchor at Reichenbach’s speech point S “+s” (TU), and/or at Reichenbach’s reference point R “+t” (TT).4 By introducing these two features “s” and “t” with two values each (+ or -), Oversteegen creates the possibility of four tadv categories A, B, C, and D which can be compared with Smith (1991), Kamp and Rohrer (1983):

- **A: [+s, -t]** can only anchor at TU
  - yesterday
  - last Sunday
  - next week
- **B: [+s, +t]** can anchor at TU and TT
  - a week ago
  - in the next week
  - last weekend
- **C: [-s, +t]** can only anchor at TT
  - one week later
  - after one week
  - one week afterwards
- **D: [-s, -t]** do not anchor at TT and TU
  - since Christmas
  - after the reunion
  - on the 23rd of February

Oversteegen’s category A [+s, -t] corresponds to Smith’s rigid deictics, the category which K&R wish to proclaim empty (‘last Sunday’). Tadv’s from this category can only anchor at S (TU), not at R (TT). Category B [+s, +t] is matched by Smith’s permissive deictics and a fusion of K&R’s category 1 and 2 (‘in the next week’). These tadv’s can anchor at both TU and TT. Category C [-s, +t] corresponds to Smith’s dependents and K&R’s typically anaphoric tadv’s (‘one week later’), which can only anchor at TT and, finally, her category D [-s, -t] is called flexible anchoring in Smith’s classification and, giving its non-indexical, non-anaphoric nature it is missing in K&R’s classification (‘since Christmas’). Oversteegen investigates these semantic properties in several syntactic configurations and concludes that tadv’s depending on their different syntactical

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4 Note that this is again a reinterpretation of Reichenbach’s (1947) framework: Reichenbach considers temporal adverbials by default as specifiers of the reference point R; see section 2.1.1 of the present study.
positions in an utterance anchor at different time points (which are actually S/TU and R/TT).

Hornstein (1991) also describes the complex relation between the structural and functional properties of tadv. He considers positional Tadv as modifiers of Reichenbach’s E and R (or, in this study, Klein’s TSit and TT). In a three parameter approach with two spans that can be modified (speech time cannot), the question is what time span is modified by the multiple Tadv in

\[(2.11) \quad \text{a. Yesterday, John left for Paris a week ago} \]
\[\text{*b. Yesterday, John, a week ago left for Paris} \]

In (2.11a), the sentence-initial yesterday has mapped onto R (TT) and the sentence-final a week ago has mapped onto E (Tsit). However, for utterance (b), Hornstein states that both the sentence-initial adverb yesterday and the one in the immediate post-subject position a week ago preferentially map onto R (TT), as yesterday alone in (a). So, he predicts that the sentence in (b) is unacceptable because there are two temporal adverbials in the pre-verbal domain which both compete on mapping onto R (TT):

“If both adverbial positions (ms. one before and one after the subject but both in the pre-verbal domain) map onto R, then one will be left stranded, modifying nothing.” (Klein 1994: 33)

Klein states that not only the syntactic position and the meaning of the tadv affect the temporal function of the tadv. There are at least four factors (see also Oversteegen 1988) which crucially influence the interaction of temporal adverbials with other temporal characteristics of the utterance: (1) the nature of the time span to which the time talked about (TT) is related and which can be deictically, anaphorically, or calendrically given; (2) the utterance structure and in particular the ordering of informational aspects such as topic-focus; (3) inherent lexical properties of other parts of the utterance (especially the lexical content of the verb and its arguments); (4) tense and aspect relationships; (5) the intonation contour of the utterance. In the next section, I explain using some illustrative examples how complex the interaction of tadv with other pieces of (temporal) information in the utterance can be. I concentrate on just one aspect, the utterance structure. How do positional/structural properties of tadv influence their precise temporal function? Given the fact that one of the three relevant time spans is already given (the time of utterance TU), which of the two other time spans, TT or TSit, do tadv specify?
2.2.3 Scope properties of temporal adverbials

Temporal adverbials have scope properties just like quantifiers and negation particles. Depending on how syntactic scope is organised in a particular language, the temporal components TT and T sit with which tadv interact vary according to their position in an utterance. Note that intonation may overrule marking by position. Intonation may single out focussed elements for interaction with tadv regardless of their position. Consider the examples (2.12a)-(c), each of which selectively describes the sending away of an article in the past (yesterday afternoon). These examples pose the general problem of the scope of tadv within an utterance. The examples are in Dutch, one of the target languages of our adult informants in my empirical study. The English translation shows that languages use contrastive linguistic means to encode the same tense and aspect notions. The examples relate to the following situation. Two months ago, you promised the editor of a well known journal to send in your article. Yesterday was the deadline. Today, the editor calls you to say that he did not receive your article, so he will not publish it. You are sure that you sent it away on time by fax (i.e., yesterday at five). If he does not believe you, he should call your secretary to confirm your reading, because:

(2.12) a. [Gisteren om vijf voor vijf],
when I was faxing my article,
the secretary came in.

When the editor calls your secretary, she may use the following wording to confirm your reading:

(2.12) b. [Gisteren om half zes]
he had faxed his article

In these examples, tense morphemes (the past auxiliary forms of ‘be’, ‘have’, and the past perfective of ‘come’) specify the temporal relation between the here-and-now (TU) and the past time span for which an assertion is made (TT). Aspect morphemes like the imperfective marker (for Dutch, the verbal cluster ‘is aan het’; in English, auxiliary ‘is’ plus the inflected lexical verb ‘ing’) and the perfect construction (in both languages, the auxiliary ‘have’ plus past participle of the lexical verb) specify the various temporal relations between this time in the past and the time of the situation itself, the time of the sending off of the article (see section 3.3 for more details about the Dutch language specific markings for imperfective and perfect). They specify the temporal relations between the video
camera on the time axis TT and the state of affairs Tsit. In the first utterance, the video camera shoots at the sending away in the middle of the action (the time that the secretary came in, TT < Tsit) and in the second utterance only a trace of the event, the post-state of the sending action (for example, a fax-registration form), is filmed (TT > Tsit). The global TT stays the same and is in the past, before TU. The examples demonstrate that tense and aspect markers are relational notions. They specify temporal relations, either between TT and TU (= tense) or between the TT and Tsit (= aspect). However, what morphosyntactic tense and aspect markers cannot do is to explicitly make precise the topic time or the time of the situation itself. This seems to be the task of tadv. If they do so, like yesterday at 16.55 in (2.12a)-(c), how do they specify TT and Tsit?

In (2.12a), it is clear which time span of the two relevant time spans is explicitly specified by the tadv yesterday at 16.55, namely the TT. The imperfective aspect marking indicates that the time for which an assertion is made (TT) falls within the time of faxing the article (Tsit). It takes some time to send an article off by fax and in the middle of this process the secretary (=the video camera = the TT) came in. The whole time of situation of the process of sending off the article by fax could already have been started at 16.45 and there is no marking of a right boundary of this process within TT (---<---[---]>--). So, yesterday at 16.55 can only be a sub-part of the total situation time and specifies clearly the time span (TT) about which you are making a claim (the moment that you were in the middle of the action of faxing the article and that the secretary came in). TT and Tsit are partly simultaneous.

In (2.12b), one possible reading is that the tadv specifies the TT, the time of bad, the time for which the secretary is making a claim. In that case, the explicitly specified TT yesterday at half past five is after the unspecified time of situation as is marked by the morphosyntactic perfect marking (TT > Tsit, ----<-->[---]). However, yesterday at half past five can also specify the time of situation of the faxing itself, the time of faxed(---<---[---]). In Dutch, in that case the secretary would have said: Gisteren om half zes heeft hij zijn artikel gefaxt. If you use the plusquam perfectum form hij had verstuurd 'he had faxed' then you almost automatically indicate that at half past five you were already in the post-state of the fax event. Note that the English equivalent translation ‘yesterday at half past five, he has faxed his article’ of the Dutch Gisteren om half zes heeft hij zijn artikel gefaxt is ungrammatical. This shows the incompatibility of past tadv and a present tense in English. If yesterday at half past five specifies the Tsit, the time of faxed, then the tadv would normally, in English, not have been placed at utterance initial position but in utterance final position close to the event specification, the verb, as in (2.12c):

\[(2.12)\quad \text{c. Hij heeft zijn artikel gefaxt}\]
\[
\quad \text{[gisteren om half zes]}
\]
\[
\quad \text{He had faxed his article}\]
\[
\quad \text{[yesterday at half past five]}
\]
Since we know (from the utterance before) that the actual faxing event (TSit) was around 16.55, and since we also know (from experience) that the time of sending a fax does not normally take longer than 30 minutes, only the first reading can be correct.

This interaction between the position of the tadvs and the time span they specify is what I call the scope properties of tadvs. The examples (2.12a) and (b) clearly show that if an adverbial is placed in the utterance initial topic component, it has scope over the tensed part of the utterance, the TT, and if is placed in utterance final focus component of the utterance, close to the event specification itself, it has scope over the Tsit. In English, the adverbial in the pre-verbal domain specifies preferably the TT whereas the adverbial in post-verbal domain seems to prefer the time of the situation as in:

(2.13)  a. At ten, he had left  
        b. He had left at ten

For the former utterance it is normally understood that at ten specifies the time of the TT which is at the post-state of the leaving and for the latter that at ten specifies the time of the leaving itself. The same link between the type of embedding of a tadv and the reading of the embedding utterance can be observed in (2.14a)-b).

(2.14)  a. On Monday, I work from 2 to 5  
        b. I work on Monday from 2 to 5

In (a), on Monday specifies a TT which is in clear contrast to other TT’s like on Tuesday or on Wednesday. It could be an answer to the question, “What are your working hours on Monday?” In (b), as answer to the question “When do you work?” no such contrast is involved because TT is not explicitly marked. An initial adverbial like in (a) narrows TT down to a certain time span and does so in contrast to some other time span, for which a comparable claim could be made. In (a), the time for which an assertion is made is narrowed down to on Monday and the claim is that the working hours are from 2 to 5. In (b), the time for which an assertion is made is not narrowed down at all, except that it must include TU, and the claim is that the working hours are on Monday from 2 to 5. Again, we see that the position of the tadv determines the function of the tadv. The interesting question for this study about second language acquisition is how learners acquire familiarity with not only the structural and the semantic properties of tadvs but also the interaction between them.

2.2.4 The expressive power of tadvs

Finally, I would like to say something about the expressive power of tadvs. This is extremely relevant considering the subject of my study: learning a second
langu
age. A lot of learners learners “fossilize” at a basic level in which they use tadvs and do not develop morphosyntactic tense and aspect makings. The use of tadvs can be considered as the most basic way of expressing temporality. Most languages use a wide variety of all types of tadvs and because these express temporality in a lexical and not in a language specific morphosyntactic way, second language learners use them very successfully. I showed already that temporal adverbials express both internal and external temporal properties of time spans (see 2.2.1). They can specify the internal duration, the boundaries, and the frequency of a time span and they can specify the external relationship between a TT, the time talked about, and another time span which is given in context. If this other time span is deictically given, the temporal relationship which is specified is the one between the time talked about TT and the time of utterance TU. The tadv yesterday, for example, indicates the temporal relationship between TU today and the TT the day before today. From section 2.1.2, we know that this lexical temporal marking indicates exactly the same external relationship as grammatical tense marking does on the verb; in this case, the BEFORE relation of TT to TU (e.g., past tense).

Here, I argue that the same is not true for grammatical aspect marking, the relationship between TT and Tsit. Although tadvs can specify very precisely TTs or Tsits, they cannot specify an ordering relationship between a TT and a Tsit, nor the difference between a TT included in Tsit and a TT included in TT. This implies that tadvs do use the same expressive power to indicate the aspektual perfect, prospective, imperfective and perfective variation as aspektual viewpoint markings do around or at the verb (as we have seen in section 2.1). What happens in the case of languages which do not (yet) use aspektual viewpoint markings, e.g., learner varieties? Can tadvs compensate for grammatical aspect marking? Some researchers (see e.g., Smessaert 1999) consider one particular type of adverbial, namely temporal adverbials of contrast (TAC) like still and already, as aspektual operators in fully-fledged languages. However I totally agree with Bohnemeyer (1998) who argues on the basis of an in-depth analysis of the use of these adverbials in a fully-fledged German discourse (the German Tempest corpus, see 2.3) that these TACs do not contribute to the TT-Tsit relation in one utterance:

“In particular, in no case did the adverb contribute anything to the clarification of one event order in one reference act. As long as we look at any particular reference act containing one of the adverbs in isolation, we can always omit the adverb and still obtain exactly the same expression of event order. The adverbs exclusively serve to contrast two event orders expressed in two reference acts.” (Bohnemeyer 1998: 599)

As I said before, the precise temporal contribution of TAC is difficult to describe. Indeed, Bohnemeyer (1998) suggests a contrast in their basic semantic meaning, namely, the contrast between two TT-Tsit relations in different utterances. This is not the place to discuss in detail the precise semantic function of TACs. What
is important for us now is that the temporal information of TACs do not seem to contribute to the individual TT-Tsit relation within one utterance. I assume that aspectual viewpoint markings in fully-fledged languages do overrule the use of TACs. The use of an adverbial like already could, at first sight, express that the time of situation is over at a particular TT and so express the perfect post-state aspectual viewpoint. In contrast, the use of an adverbial like still could express that the time of situation is not over at a particular TT and so express the imperfective aspect. See the following example, where the expressive power of the TAC is ruined by the use of aspectual viewpoint markings.

(2.15)  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>He is (already) swimming</td>
</tr>
<tr>
<td>b.</td>
<td>He has (still) been eating pap</td>
</tr>
</tbody>
</table>

In (2.15a), the aspectual viewpoint progressive marking overrules the contribution of already; the swimming is not over yet. Already seems to indicate a contrast here, namely the contrast between what one would normally expect from the agent (for example, a three year old boy) and what he is actually doing. The same holds for (2.15b), the aspectual viewpoint perfect marking indicates that the eating is over despite the still. Still only indicates that in contrast to what one would normally expect he has been eating pap. However, this does not mean that in learner varieties which at a certain stage do not (yet) use these aspectual viewpoint markings as shown in (2.16a)-(b), these TACs could be considered as compensatory devices for indicating that a time of situation is already over at TT or that it is still going on:

(2.16)  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>He already swim (\Rightarrow) ‘he has already swam’</td>
</tr>
<tr>
<td>b.</td>
<td>He still eat pap (\Rightarrow) ‘he is still eating pap’</td>
</tr>
</tbody>
</table>

The problem is that one (the listener) has to assume an unmarked TT and an unmarked Tsit on the basis of these basic verb forms which can vary among learners. This is exactly the difference between aspect and tense marking. Because tense marking is a deictic relationship between the time of utterance TU and the time talked about TT, one of the two time spans is already given, namely the time of utterance TU. One deictic adverbial like yesterday is enough to create the TT-TU relationship. In the case of aspect marking, considered as a temporal relationship between the time talked about TT and the time of the event talked about Tsit, both time spans are unknown. This means a triple specification is needed. The individual time spans TT and Tsit need to be specified, as does the relationship between these two. Tadvs do not have the same unambiguous and expressive power as grammatical aspectual viewpoint markings. A more synthetic linguistic device is needed and this involves grammaticalization of the language variety.

These examples clearly show that the interplay between tadvs of each type, their structural embedding, and, therefore their scope over other (temporal) elements
in the utterance is very complex. The empirical analyses in the later chapters will show us how second language learners deal with both the structural and the semantic properties of tadv. Their versatility in productive use and their capacity to contribute directly to the coherence of discourse by linking the temporal contributions of two utterances/assertions acts could be the reason why these tadv play a significant role in the acquisition process of second language learners (Dimroth 2000, Benazzo 2000).

2.3 The interaction between discourse and utterance organisation of time

Temporal references cannot be interpreted without considering preceding and following utterances. Context is needed for making the right inferences. The integration of linguistic meaning proper and other information (e.g., from previous utterances, from situational perception, or from general world knowledge) makes it possible to construct (for the speaker) and to reconstruct (for the interlocutor and the researcher) semantical representations. Moreover, temporal reference in one utterance is the outcome of the complex interaction between several explicit (the lexical content of the verbs, nouns and adverbs, verbal inflection) and implicit linguistic devices (such as how the words are put together), world- and context knowledge, the temporal relation with preceding and following utterances, etc. In fact, it has often been proven that global discourse organisational principles have an essential impact on the (acquisition and) use of local means in individual utterances.

In this section, I present three types of discourse organization principles: (I) the classic Principle of mentioning the events in their Natural Order (PNO), (II) the Quaestio-model which considers each set of related utterances as an answer to a particular “quaestio”, and (III) the Boundary-To-Order principles which assume a complementary relationship between boundary information via aspectual viewpoint markings and ordering information via tadv and connectives like ‘after’ and ‘before’.

2.3.1 The Principle of Natural Order of events: PNO

Information is organised in a particular way, depending on the communicative goal. Consider information organisation in a personal narrative in contrast to information organisation in a description. In a personal narrative, one recalls all the events that happened (yesterday, for example) and one normally does this in chronological order. One tells about the events and/or situations that happened and/or occurred yesterday in their natural order. This is called PNO; the Principle of mentioning events in their Natural Order (Clark 1971, Labov 1972). To use
again the metaphorical video camera, one starts by putting the video camera at eight in the morning and with mentioning all the events of yesterday, the camera shifts automatically along the time axis till evening (following the arrow of time, see chapter 1). Remember from the temporal framework we are using (described above in section 2.1.2) that the relation between TT and TU remains the past (yesterday) and that within this global TT [yesterday] the camera can move, probably going from eight o'clock in the morning till eleven o'clock in the evening. So, when asked “what did you do yesterday” you may give an answer like

(2.17) a. at eight I got up  
    b. I washed my hair  
    c. I brushed my teeth  
    d. at ten I went out to do some shopping  
    e. at five (and so and so on)

Note that the relation between the time of events Tsit and the local TT’s is always more or less simultaneous: TT=Tsit, the video camera shows the beginning and the end of the events, which is typical for a narrative style of discourse. The following narrative is a typical example of one of my native Dutch informants (Arno), who tells about his wedding day:

(2.18) a. ik stond op  
    ‘I got up’  
    b. en <hek> gegeten  
    ‘and I have eaten’  
    c. en toen heb ik m’n eigen aangekleed  
    ‘and then I got dressed (myself)’  
    d. en dan wet ik het eigenlijk niet meer  
    ‘and then I actually don’t remember anymore’  
    e. onder de douche geweest  
    ‘been under the shower’  
    (...)
    f. en dan zijn we nog foto’s wezen maken  
    ‘and then we went away making some photographs’  
    g. en toen zijn we weer naar huis gegaan  
    ‘and then we (have) went home again’  
    h. en badden we een doorlopende receptie  
    ‘and we had a continuous reception’  
    i. maar we hadden vantevoren nog de taart gesneden  
    ‘but before we had cut the pyc’  
    j. en toen aan om 6 uur badden wij doorlopende receptie tot 10 uur  
    ‘and then at six o’clock we had a continuous reception till ten o’clock’

Note first of all the variation between the use of the simple past _ik stond op_ ‘I got up’ and the present perfect _ik heb m’n eigen aangekleed_ ‘I got dressed myself’. In

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In (i) nog ‘still’ is not a temporal adverbial but an additive focus particle which indicates in this utterance that of a list of things that they did before they had the reception, the <cut the pie> event was one of the last. This _nog_ is difficult to translate into English (Nederstigt 2000).
chapter 3, I refer in more detail to the differences in use between these two past tense markers in Dutch. Arno's short narration shows a typical narrative style whereby the (local) topic times and the (parts of the) events which are linked to these topic times follow each other in a pure chronological way, following the Principle of Natural Order. Note that the natural order of taking a shower after getting dressed is a strange natural order but “permitted” because of the preceding break: 'and then I don't remember anymore'. In the remainder of this stretch of discourse, the topic times of all the utterances form an “anaphorical chain” because (a) TT1>TT2>TT3 and (b) the Tsit’s are included in the TTs (perfective viewpoint aspect). Note, however, that the events in the utterances (h) and (i) are not retold chronologically but simultaneously. This violation of PNO has clear consequences for the linguistic means used in utterance (i):

(a) the connective maar indicates that the local TT does not shift (it stops the video camera from shifting further on the time axis: TT2=TT1);
(b) the temporal adverbium vantevoren 'before' indicates that the <cut the pie> event happened before the <have a reception> event: Tsit2<Tsit1;
(c) the morphosyntactic plusquam perfectum marking on the verb we hadden gesneden 'we had cut' indicates that it is the post-state of the <cut the pie> event (Tsit2) which is hooked up to TT2: Tsit2<TT2.

So, the metaphorical video camera turns at the same time to the post-state of the <cut the pie> event and to a subinterval of the ongoing reception. The video camera does not have the <cut the pie> scene in its focus; it can only shine on the after-state of the <cut the pie> event; everybody has a piece of pie in their hands during the reception, for example. In this utterance, there is a dissociation between the Tsit of the <cut the pie> and the topic time/the video camera on the time axis. The ordering adverbial vantevoren 'before' is, in fact, redundant because the plusquam perfectum already specifies that the Tsit2 of the <cut the pie> event is before the TT2 of that assertion act which in turn coincides with the TT1 for which the Tsit1 of the reception is asserted:

(h)' (TT1) en hadden we een doorlopende receptie (Tsit1, TT1 ‘includes’ Tsit1) ‘and we had a continuing reception’
(i)' (TT1=TT2) maar we hadden vantevoren (Tsit2<Tsit1) nog de taart gesneden ‘but before we had cut the pie’

This is one example of a how a violation of PNO in the global organization structure of narrative discourse has consequences at the local utterance level. The narrative style of this discourse asks for a sequence of TTs to which the Tsits of each assertion acts are anchored. If the speaker wants to tell the events in any order other than a chronological one (not following the arrow of time) then he has to indicate explicitly that (a) the TT must stay (and not shift) and (b) Tsit 2<Tsit1.
In the case of a description, however, the video camera certainly does not have to move along the time-axis; it has to stay at one point and shoot from there, which means that, (a) TT1 = TT2 = TT3 = TT4 and (b) the local TTs are included in the Tsits. For the sake of clarity, I repeat here the description of the “scene of the crime” (see 2.1.4) the answer to the question, “What did you see when you entered the room?”:

(2.8)’

a. A man was lying on the floor  
b. He was Chinese or Japanese  
c. He did not move  
d. A woman was bending over him  
e. She was taking a purse from his pocket  
f. She turned to me  
g. She said:  
h. They have gone

As follows from my temporal analysis of this piece of text in section 2.1.4, I consider the utterances (a) to (g) as part of a description: the video camera (= TT) stays at the same point on the time axis and the witness is using an imperfective marking on the verb in order to indicate that she does not make any assertion regarding the right boundaries of these events / situations at the given TT. From utterance (g) on, when the local TT shifts, the witness changes her testimony into a narrative style and marks the verbs with a perfective (boundedness) marking. The anaphoric linkage goes now from right boundary to right boundary of the events which are asserted for sequencing TTs in an anaphorical chain. In the next section, I explain on the basis of the so-called “Quaestio-model” how the general question determines whether the answer will be on the form of a narrative, a description, an instruction, etc.

2.3.2 The Quaestio-model

The examples in 2.1.3 showed that temporal (and spatial, causal, etc.) information in a text is organised in a certain way depending on the communicative goal. Depending on the type of text, organization principles operate in different ways. In my analyses, different types of texts are distinguished on the basis of the “quaestio” (Klein & von Stutterheim 1992), the abstract notion of the general question to which a certain text provides response. The quaestio determines the structure of the text which answers it in different ways: it defines the partitioning into main and side structures, the way in which the information flows from one utterance to the next (“referential movement”), the topic-focus structure of all main structure utterances, etc. Descriptions, reports, narratives, argumentations, and instructions have different organization principles and the form of the “constraining” question will constrain the semantics of the complex answer: static versus dynamic verbs, present vs past tense, type of modality, topic-focus partition as in:
(2.19)  a. How did he repair the puncture?  First of all he took a ...
   b. How does one repair a puncture?  One takes a ...
   c. How can I repair this puncture?  You must take a ...

The macro-organization of texts has -via the global (abstract) quaestio- an important impact on the use of linguistic means at the micro-organization level of the utterance. The semantic organisation thus (partly) defines the linguistic means to be used. In the case of a narrative, the quaestio answered by the discourse is generally assumed to be “What happens next (to P)?”, which leads to a reference to time (and the known protagonists) in the topic component and reference to events in the focus component. This distribution of information is only found in utterances that directly answer the discourse quaestio (i.e., the main structure of the text). Utterances that do not provide a direct answer to the quaestio, and thus do not push forward the main story line, belong to the side structure. Their information structure has to be analyzed by means of an individual reconstruction of the question they answer (Dimroth & Watorek 2000).

Therefore, when producing a text, speakers have to interrelate information spanning different conceptual domains (using temporal, causal and spatial relations, for example) in order to form a coherent whole. This means that we do not talk any longer of the time reference of utterances but of temporal coherence; the time structure inherent in the representational context of a (piece of) discourse. In the field of formal semantics, several truth-conditional semantic analyses of discourse representations are provided. In the domain of temporality, the most influential analysis is the so-called Discourse Representation theory (DRT), which goes back to Kamp (1979). Other studies of temporality in DRT include Hinrichs (1981, 1986), Kamp and Roher (1983), and Kamp and Reyle (1993: chapter 5). The relation between temporal reference markings in discourse and truth conditional formal semantic frameworks of temporal reference (such as DRT) has always been an uncomfortable one; Particularly in (learner) language varieties which do not dispose of the maximal range of explicit linguistic temporal markers. Therefore, I use in this study the Quaestio-model as a discourse semantic model of information organization; it can handle different types of text and is based on temporal notions and not on temporal forms.

Klein and von Stutterheim (1987) state that a narrative consists of a main structure and a number of side-structures such as evaluations, comments, etc. They also describe two conditions on referential movement in (personal) narratives. The main structure can be characterized by two conditions which constrain the referential movement, especially with respect to temporality, and which define the topic-focus-structure of each utterance. They can be stated as follows:

Focus condition: Each utterance specifies an event whose Tsit falls into the topic time of that utterance (this entails a default perfective aspect; TT ⊃ Tsit). The event specification, normally done by the verb, constitutes the focus of the utterance.
Topic condition: The topic time of the first utterance is either introduced by a positional temporal adverb or follows from situational context. The TT of all subsequent utterances of the main structure is after. (Dietrich et al. 1995: 26).

These conditions have two important implications for the use of temporal means at the utterance level. The focus condition entails that utterances of the main structure have a perfective aspect. If the situation time does not fall (properly) into the topic time of an utterance, the speaker has to mark this explicitly. The second condition entails that the local TTs of all utterances form an anaphorical chain, as we already discussed above (PNO, 2.3.1). At the local level, this means that if the TT of a subsequent utterance is not after, the narrator has to mark this explicitly (see example 2.18 above). The inverse holds for descriptions in which, by default, the local TTs do not shift and the utterances of the main structure have an imperfective aspect.

In the case of a personal narrative, it is clear that all local TTs precede TU (= past tense) and the events that have actually happened to someone are always anterior to the moment of speech. Note that in a narrative which is not based on personal (past) experiences but, is, for example, based on a book, a film, or on future expectations, the relation between TT and TU is not by default an anterior one. Part of what is involved in setting up a narrative time-line is to “put brackets around the narration itself. The bracketed utterance event and associated point of evaluation should not play any role in the temporal information of the sentences in the narrative discourse, which means that temporal deixis can no longer revert to this time (Sandström 1993: 131-132). In a similar vein, Boogaart argues that “[i]n order for a sequence of sentences to constitute a narrative, the situations presented should be linked to each other in a meaningful way, rather than each linked independently to the moment of utterance. This intuition has also been phrased as the claim that tense is un-informative once a narrative context is established” (Boogaart 1999:71). Therefore, I want to add here a third condition which I label the “Global Topic Time” condition GTT (or “anchoring tense”, see also Aarssen 1996, Bos 1997 and Housen 1995). The topic and the focus condition above are default principles which constrain the TT-to-TT linkages between utterances (subTT1>sub TT2) and the Tsi-TT-linkage within utterances (TT1 includes Tsi1). However, the GTT-principle first defines the relation between TT and TU for each TT in a set of related utterances (or discourse episode). The location of TT relative to TU in a set of related utterances (or discourse episode) can be explicitly marked by a positional Tadv in the first utterance of an episode or is based on situational context (the episode is in the past, ‘yesterday’, for example). If it is not marked explicitly, the relation between TT and TU is by default simultaneous (TT=TU is present). The global temporal frame which is thus set is then implicitly maintained over subsequent utterances, unless marked otherwise.
Or, as Aarssen (1996) says:

"By choosing one tense, the speaker places the events on a time axis and thus temporally "anchors" the narrative. Moving through the narrative, the speaker has to relate subsequent utterances to this anchoring tense. In the representation of successive events, the anchoring tense should be maintained" (p. 127)

Thus, a shift of temporal frame must be explicitly marked (von Stutterheim 1986, Meisel 1987) in whatever linguistic form at the local level. In the case of events that are "really" anchored at the time axis before TU (as in a personal narrative), the local TT-TU tense relation also changes if a speaker changes from telling her own experiences (in the past) to her future plans.

Assuming that these three conditions - the focus, the topic, and the global topic time condition - are universal for telling a story, the question is how languages (and learners) differ in the way they mark changes in the anaphorical chain (the topic condition), changes in the default perspective aspect (focus condition) and a change of the global TT. How do languages differ in tracking TT at the utterance level (relation between Tsit and TT), at the global level (relation TT and TU), and in the interaction between these two levels (the anaphorical linkage between TTIs). There are morphemes and constructions (tense and aspect, temporal adverbials and connectives, etc.) which serve to track topic time. But, as I will argue further on, the tracking of TT can also be done on the basis of inferences in context (the non-violation of the pragmatic principles of temporal discourse organisation described above) or on the basis of conversational management.

Languages show different balances between implicit non-linguistic and explicit lexical (connectives, pure topic-time shifters, and temporal adverbials) and grammatical means (morphosyntactic tense or aspect marking). As we will see in chapter 3, languages like German and Dutch mark at each assertion act the relation between TT and TU (tense), whereas languages like Moroccan-Arabic and Turkish mark at each assertion act the relation between TT and Tsit (grammatical aspect). Many studies have also shown that languages differ in the way they rely on tags or on grammatical tense and/or aspect in order to maintain the temporal referential movement between utterances. These differences in preferences of linguistic means must have repercussions on the way that temporal coherence in discourse is constructed. In a study of Caroll and von Stutterheim (1992) among Dutch and English native speakers, it has been found that in the same film-retelling (Modern Times, 1936), German native speakers use three times more temporal adverbs than English native speakers.
Table 2.1 Frequency of tadvs in German and English film-retellings

<table>
<thead>
<tr>
<th></th>
<th>temporal adverbs</th>
<th>utterances</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>201</td>
<td>1602</td>
<td>12.5%</td>
</tr>
<tr>
<td>German</td>
<td>682</td>
<td>1371</td>
<td>48.7%</td>
</tr>
</tbody>
</table>

It is clear that in the case of learner varieties, the balance between these different means changes over time and so temporal coherence is established in different ways at different stages of development. It has often been said (Dietrich et al. 1994, Meisel 1987, Giacolone-Ramat 1992, Skiba & Dittmar 1992; see also section 4.2.1 of this book) that in the initial stages of acquisition, learners predominantly rely on implicit temporal reference marking as their learner varieties are still too poorly equipped for marking temporal reference linguistically. Then they progress to the use of tadvs of all types and, finally, some of these learners develop tense and aspect means. They first rely on an extensive scaffolding of the linguistic contributions of the interlocutor (who explicitly marks the appropriate temporal coordinates of the discourse) and on a strong appeal to the interlocutor’s inferential abilities. They even can use gestures to indicate basic temporal notions like BEFORE, NOW, ITERATIVITY, ONGOINGNESS, etc (see Gullberg 1998, Housen 1993, 1994). The crux is then to ensure the interlocutor makes the right inferences by a heavy reliance on contextually given or previously established information, on presupposed shared knowledge and on default assumptions about the temporal properties of the situations referred to. It is evident that the inferences of the interlocutor must be constrained, otherwise the learner can say “n’importe quoi” in no matter what order and the interlocutor can make something coherent out of it. The discourse principles mentioned above must be at the heart of these inferences. Our general assumption of the arrow of time means that a set of narrated events are interpreted as following each other (topic condition, PNO), as having a simultaneous TT-TSit relation (focus condition), and as having the same global TT-TU relation unless marked otherwise. These are default principles of information organisation and these constrain the interlocutor’s temporal inferences of a learner’s discourse at each stage of its development and this is also what constrain my analyses of the learner data, later on.

Note that also in the case of fully-fledged language varieties (or learner varieties which do show tense and/or aspect marking), the tracking of TT in discourse is above all a matter of inferring from context, as is stated also by Hinrichs (1981, 1986) and Partee (1984):

“Reference times (=TT, ms) are not directly denoted by any part of the sentence; they are more like a part of the necessary context for interpreting tensed sentences (…) akin to the kind of locative frame of
reference needed to interpret left and right and other locative expressions. And like the locative case, they are not bound to the actual context of the utterance but can be ‘constructed’ and shifted in the course of interpretation” (Partee 1984: 264-265)

The interpretation of local TTs is not totally free (but predictable and constrained), either in fully-fledged languages or in learner languages. The discourse principles described above give the presupposed universal constraints in order to determine TT no matter how the relation between TT-Tsit and TT-Tsit is encoded or has to be inferred. This means that if a language lacks the explicit lexical or morphosyntactic coding of a TT to TU or TT to Tsit relation, this language must rely more on pragmatic discourse principles such as those given above. This is, for example, the case in Yukatek Maya, an indigenous Meso-American language spoken on the Yucatan peninsula (Bohnemeyer 1998). In the next section, I explain how a combination of Klein’s temporal framework (with a clear definition of TT) in combination with Bohnemeyer’s idea of Boundary-to-Order implicatures can give us the necessary equipment to determine how TT can be inferred in the discourse of a language where only the relation between TT and Tsit is overtly marked.

2.3.3 The Boundary-To-Order implicatures

With respect to language acquisition, Yukatek Maya (YM) is an interesting language for an investigation of the mechanisms of temporal coherence because expressions of event order are entirely absent from the grammatical and lexical code of this language. That is, there is no absolute or relative tense inflection, and no temporal connectives translating AFTER, BEFORE, or WHILE. So, the temporal notions like “anteriority”, “posteriority” and “simultaneity” that one has always considered as universal temporal notions indispensable for temporal reference and temporal coherence in texts, have turned out to be almost uncodable in YM. Nevertheless, just like learners who have to cope with a linguistic repertoire which lacks necessary temporal means, YM speakers are capable of establishing temporal relations between events in a piece of discourse. A referential-communication study with a video-stimulus (The TEMPorality Elicitation, STimulus TEMPEST) showed that speakers of YM and speakers of German are equally capable of identifying, categorizing, and communicating the orders of the events in the video-clips. Both groups performed equally well on the task, despite the fact that the German speakers coded (i.e., overtly expressed) the order of the events by means of relative tense and temporal adverbials in 92 percent of their assertion acts, whereas the Yukatek subjects did so in just 1 percent of their utterances. So, despite the fact that their language does not use the often assumed indispensable universal linguistic means for marking event order in discourse (Jackendoff 1983,

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* This does certainly not mean that these notions are not universal.
I do not totally agree with Bohnemeyer’s (1998) qualification of implicitness; having experienced analyses of (early) learner varieties, this morphosyntactic post-state marking is in my view already very explicit.

Alverson 1994, Goddard & Wierzbiecka 1994; see Bohnemeyer 2000). Yukatek speakers are equally well able to distinguish the order of events on the bias of the video-stimulus-TEMPEST.

This observation refers back to the question we asked ourselves in section 2.1 and we will repeat it here: is the way you think and speak about temporality not totally dependent on the way it can/has to be expressed in your language? Do native speakers of French have a different conceptualization of time than speakers of Russian? Bohnemeyer’s TEMPEST study has shown that, at least with respect to the coding of event order relations like anteriority, posteriority and simultaneity, it is not true that if a language does not explicitly code event order, the speakers cognitively fail to distinguish event order. As Grice (1975, 1981, 1989) has shown, an important part of linguistic meaning is not coded but derived from the semantically impoverished code of the message through pragmatic enrichment in context. It was shown in Bohnemeyer (1998) that along these lines defeasible temporal inferences from (modal and) aspectual boundary information can be analyzed as Gricean Generalized Conversational implicatures (GCI’s). Such inferences on the basis of aspectual markings occur in discourses in Indo-European languages as well as in YM discourse. Bohnemeyer’s reasoning is as follows. If you say in English:

\begin{align}
(2.20) & \text{a. They feasted after they got a piece of pie} \\
& \text{b. They feasted. They had got a piece of pie.}
\end{align}

in (a), the ordering connective after explicitly indicates the posterior order of events. In (b) it is inferred implicitly from the aspectual post-state (plusquam) perfect marking of they had got (TT > Tsit) that they feasted must be posterior to the <get a piece of pie> event.\footnote{I do not totally agree with Bohnemeyer’s (1998) qualification of implicitness; having experienced analyses of (early) learner varieties, this morphosyntactic post-state marking is in my view already very explicit.} To use again the metaphorical video-camera; the camera turns at the same time to the post-state of the <get a piece of cake> event and to the <feast> event (in analogue to example 2.18, where the <have the reception> event was after <the cut the pie> event). In fact, the they feasted is a lexical description of the post-state of they had got a piece of pie.

Bohnemeyer’s analyses of YM support the general assumption of this study that languages can differ in the way they code temporal notions like “anteriority”, “posteriority”, and “simultaneity”, but this does not mean that speakers differ in the cognitive representations of events in time. The uni-directionality of time, the fact that events happen (after or simultaneous to each other) on a chronological time-axis which points to the right is an universal temporal notion (nevertheless there are theories, -Schrödinger, Quantum mechanics- stating that events happen everywhere and nowhere at the same time). However, it seems that at the language particular level, a choice has been made to rely more either on tadv’s or on tense...
or on aspectual markings in order to convey the order of events. If a language like YM does not have explicit ordering lexical temporal adverbials like *after* and *before* then this language must rely more, as a kind of compensation, on inferences based on the aspectual viewpoint marking, as is claimed by Bohnemeyer. However, the example (2.20) above shows that in English these kind of inferences are also made on the basis of aspectual viewpoint information. So, it is only the case that in YM, inferences on the basis of aspectual information are exploited to a greater extent than in Indo-European languages.

Implicit inferences, of course, are the lifeline of learner varieties which are too poorly equipped with linguistic means for marking temporal coherence. As we have seen in example (2.1) at the beginning of this chapter, learners do not need sophisticated morphosyntactic means like tense and aspect markings (and subordination) in order to create temporal coherence. They use shared knowledge about names, times, and places in order to take the interlocutor to a certain time interval on the time axis and they create temporal coherence on the basis of implicit pragmatic discourse principles. In the process of language acquisition, learners develop temporal adverbials and (some of them) beginning tense and aspect markings which allow them to violate the iconic constraints of a discourse principle like PNO (topic condition), or to dissociate TT and Tsit (focus condition) or TT and TU (global TT condition). This is exactly what makes Bohnemeyer’s study interesting for us: the assumption that languages/learner varieties differ in the extent to which they provide lexical words, grammatical constructions or implicit meanings for temporal reference. What has to be inferred in one language can be explicitly marked in the other one and this has consequences for the way temporal coherence is established. Specifically, event order may be conveyed by coding or by inference in Indo-European languages such as German, but may, with certain exceptions, only be conveyed by inference in YM.

I will not describe in detail here how defeasible temporal inferences from aspectual information can be analyzed as Gricean Generalized Conversational Implicatures in YM following Bohnemeyer (1998). I only want to reproduce here what I think is the most important implicature of his YM study for the theory of (the acquisition of) temporality: The Principle of Partial Complementarity between boundary information and event order expressed by ordering adverbials and connectives. Therefore, I first have to introduce the six “notional” aspectual operators that Bohnemeyer introduces in his study. We have seen in section 2.1.3 above that Klein describes the following four aspectual notions: (1) perfective (TT=Tsit), (2) perfect (TT>Tsit), (3) imperfective (TT≥Tsit) and (4) prospective (TT>Tsit). Bohnemeyer, on the basis of his YM discourse analysis adds an ingressive and an egressive aspectual notion and calls the aspectual notions boundary operators: these six notional aspectual operators select different parts of Tsit for assertion at a particular TT and so the Tsits are bounded to TT depending
on the aspectual operator. Perfective operators present the event as bounded, that is, they include the initial and terminal boundary of the event in the scope of the assertion (this is not totally equal to the definition of perfective aspect as I presented it in section 2.1.3). Imperfective operators on the contrary, exclude the boundaries of the event from assertion and hence present the event as unbounded. Ingresive and egressive operators select the initial and terminal boundary of the event, respectively, for assertion. Finally, pre-state operators, such as the prospective 'be going to' constructions of English, and post-state operators, such as the English perfect tense, select pre- and post-states of the Tst for assertion.

Now, according to Bohnemeyer 1998, the use of boundary operators in narrative discourse is governed by two fundamental principles. The first principle is already mentioned in the “Principle of Partial Complementarity between boundary information and event order information” (BTO): addressees may assume that if a speaker asserts two events as bounded, (s)he is not attempting to present them in overlap. The second principle is grounded in the coherent nature of aspectual viewpoints. Because of the function of viewpoints in the maintenance of temporal coherence, addressees may assume that if speakers present an event from a certain point of view (for example, the post-state), they want to stress the relevance of this viewpoint with respect to another event (like in example 2.18). Bohnemeyer emphasises that: “the inferences can be cancelled due to context and world-knowledge. They have the status of preferred interpretations or of a default interpretation.” (p. 117).

Bohnemeyer concludes by arguing that if boundary information and event order are partially complementary then this complementarity allows languages (like German) to focus on event order using temporal connectives and tense and tp leave boundary (aspectual) information underspecified whereas a language like YM focuses on event boundaries leaving the explicit marking of event order by tense marking and temporal connectives underspecified. This is in corroboration with Caroll and von Stutterheim’s (1992) findings of temporal markings in narratives of English and German native speakers (see table 2.1). A language like English, which is considered to use a wide range of grammatical aspectual viewpoint markings, does not need the same amount of ordering tadv and connectives as German needs (in compensation).

That boundary marking is essential for making temporal inferences has been also abundantly found in second language acquisition research (e.g., Andersen 1991, von Stutterheim 1991, Bardovi-Harlig 1998).
2.4 Summary

The observations made in the course of chapter 2 may help us to understand the complex interaction between discourse principles at the global level and temporal linguistic devices at the local utterance level. In the first part, I discussed three ways to mark temporal relations. These are (a) temporal adverbials, (b) tense and aspect markings, and (c) principles of discourse organisation which act as a default interpretation. Apart from these external temporal properties, internal properties of time-spans are described which can be simply part of the lexical meaning of a verb, but also made explicit by specific adverbials, such as adverbials of duration or completion. I then posed the general problem of the scope properties of Tadvs which, as far as I know, never have been studied in relation to second language acquisition. In a rather tentative way, I explained that although temporal adverbials of contrast can be considered as lexical compensatory devices for the marking of aspecual viewpoint, the morphosyntactic aspect markings always will overrule the contribution of adverbials like still and already. Finally, I argued that the lexical marking of tense is an important compensatory device for its morphosyntactic marking because only a deictic adverbial is needed in order to establish the temporal relationship between the already known time of utterance and a deictically given topic time.

Once the temporal framework was established, it became clear that I needed a discourse-framework in order to describe the interplay between temporal relations and discourse organisation. I discussed the “Quaestio-model”: the type of discourse, defined in terms of the “quaestio” it gives an answer to, determines the linguistic devices that are used at the utterance level. Once the discourse type has been established, a particular type of temporal organisation is implied. I explained that on the basis of the shared knowledge of these information organisation principles, temporal inferences can be drawn on the basis of context without the necessity of linguistic means rendering the temporal relations explicit. For the narrative type of discourse, which constitutes the main data type of this study, I discussed three discourse organisational principles in which the tracking of TT is crucial:

(a) the topic condition; all local topic times TTs form an anaphorical chain (PNO);
(b) the focus condition; the topic time TT always includes the time of situation Tsit (default perfective aspect);
(c) the global TT condition; the relation of the global TT to the TU relation stays the same in a set of related utterances.

Assuming that these three conditions are universal, the question is how languages (and learners) differ in tracking TT at the utterance level (relation between Tsit and TT, aspect), at the global level (relation TT to TU, tense) and in the interaction
between these two levels (the anaphorical linkage between TTs). Tense and aspect, temporal adverbials connectives and other devices serve to track topic time explicitly. But, as we will see during the data analysis of the learner varieties, the tracking of TT can also be done on conversational management or on the basis of pragmatic inferences in context like the pragmatic principles of temporal discourse organisation described above (a-c). However, differences in the degree of grammaticalization of temporal concepts between languages means that temporal information is organized in different ways at the utterance and at the discourse level. To show that it is not only in minimally equipped learner varieties these discourse organisation principles play an important role, I described the extreme case of Yukatek Maya, a fully fledged language in which the interpretation of the temporal ordering of events in discourse mainly relies on implicit pragmatic discourse principles.
Chapter 3

The organisation of temporality in the source and the target languages

In this chapter, I give a rather brief overview of some selected features of the linguistic means for the expression of temporality in the source languages Turkish and Moroccan and the target languages Dutch and French. Special attention is given to a cross-linguistic comparison of differences and similarities in the ways temporal concepts are grammaticalized or not in these languages. Different balances of grammatical, lexical, and pragmatic devices have implications for the way temporal information is organized at the local utterance and at the global discourse level in the source and target languages.

The uni-directionality of time seems to be a shared common temporal knowledge among speakers of different languages, even in the extreme case of a language like Yukatek Maya. The same holds for the pragmatic discourse principles and the boundary-to-order inferences described in chapter 2. This means that although the uni-directionality of time and the three basic discourse principles for telling a temporal coherent story (including the BTO-implicatures) are not linguistically encoded in a language, and thus are not part of the truth- semantics of the utterances, they represent preferred or default interpretations. The addressee will not fail to derive them unless (s)he has evidence to the contrary, and the speaker thus can rely on the addressee deriving the inference unless (s)he provides inference to the contradictory.

Nevertheless, languages differ in the way they encode the TT to TU relation, the TT to Ts relation, and the relation between the TTs which form the anaphorical chain in discourse. Below, I describe how the source and the target languages differ in marking these temporal relations. The description of the time reference in the four languages is not only based on standard descriptions of temporal reference (standard grammars) but also on data from language in use. This study focuses on the question of how speakers and learners bring their various linguistic repertoires in action in order to establish temporal discourse coherence. It's clear from the previous chapter that fully-fledged languages, just like learner varieties, use different resources of implicit and explicit means. In the configuration of source and target languages of the present study, there are no
such extreme contrasts as in Yukatek Maya (only aspect, no tense, few temporal adverbials) versus German (only tense, no aspect, lot of temporal adverbials). However, there is a contrast between the source and target languages: Turkish and Moroccan (section 3.1) behave more like Yukatek Maya whereas Dutch and French (section 3.2) can be characterized as being more like German.

3.1 Temporal notions in the source languages

The following survey of the linguistic means provided in the source languages Turkish and Moroccan-Arabic for the expression of temporal and aspectual notions is limited to the most important devices used in the standard everyday language. Special attention is given to the contrasts between the Dutch versus the Turkish temporal system, on the one hand, and to the contrasts between the French and Dutch versus the Moroccan temporal system on the other hand on.

I categorize the total temporal reference systems in (a) external temporal relations (tense and aspect and positional temporal adverbials, see chapter 2), (b) other temporal adverbials (tadv) and (c) discourse means (implicit discourse principles and explicit temporal connectives). Because of the fact that the (temporal) adverbial systems of the source language are not very unlike the target systems, I will only mention some examples of tadvs. The most accessible grammar for Turkish is Lewis (1967) and for Moroccan-Arabic Harell (1962). In addition, in order to see the languages in use, we use for Turkish Aarssen (1994), Aksu-Koç (1994), and Johanson (1971), and for Moroccan-Arabic (MA) Bos (1997), Caubet (1986), Holes (1995) and Giacomi et al. (2000).

3.1.1 Temporality in Turkish

Turkish is a so-called “agglutinative” language from the Altaic language family. The finite verb form is comprised of an invariant lexical stem and a string of affixed morphemes which agree phonetically with the root form. There are grammatical morphemes for voice (causative, reciprocal, reflexive, passive), modality, negation, tense, aspect, and person.

External temporal relations

Turkish has explicit linguistic means for marking TT to TU (tense) and Tsit to TT (aspect) and for indicating the relation between TTs in discourse. As in Dutch, tense is marked for each proposition of the discourse. The languages differ in the conflation of the aspectual categories; the Turkish system encodes different aspectual distinctions than Dutch and French. In combination with the present tense, there is a distinction between two aspects. The one form, -yor, is used to express actions in progress (progressive TT included in Tsit), the other form, -ir, the aorist, denotes continuing or habitual activity (one Tsit which is anchored at
more then one TT). For past tense, the expression of aspect is not obligatory: here it functions mainly as an indicator of discourse structure.

Furthermore, Turkish differs from Dutch at the functional level. Turkish uses an additional “temporal” concept which, in fact, belongs to the field of modality. However, it has to be mentioned here in the context of temporality, because its expression is systematically connected with the expression of temporality. Turkish has a grammatical means of expressing the distinction between past events definitely known to and observed by the speaker (suffix -di = past form of the equivalent of ‘to be’) and events which are known to the speaker via inference or hearsay (suffix -mis).

The Turkish agglutinative system is characterised by an extended inventory of verbal suffixes with multiple phonetic forms which apply according to the laws of vowel harmony. Suffixes play a central part in expressing time concepts (Turkish has no prefixes) but, just like other languages, the temporal reference system is built up by a balance between various explicit and implicit means like morphosyntactic tense and aspect markings, temporal adverbials, postpositions, case suffixes, and conjunctions.

### Table 3.1 The Turkish temporal system (based on Dietrich et al. 1995: 76)

<table>
<thead>
<tr>
<th>Tense</th>
<th>Form/example</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>present</td>
<td>-yor/-ir</td>
<td>I go</td>
</tr>
<tr>
<td></td>
<td>gideyorum</td>
<td>I usually go</td>
</tr>
<tr>
<td></td>
<td>giderim</td>
<td></td>
</tr>
<tr>
<td>past</td>
<td>-di</td>
<td>I went</td>
</tr>
<tr>
<td>simple past</td>
<td>gittim</td>
<td></td>
</tr>
<tr>
<td>inferential past</td>
<td>-mis</td>
<td>It is assumed he went</td>
</tr>
<tr>
<td>aspectual past</td>
<td>-yordu/-irdi</td>
<td>I was just coming</td>
</tr>
<tr>
<td></td>
<td>gelyordum</td>
<td>I used to come</td>
</tr>
<tr>
<td></td>
<td>gelirdim</td>
<td></td>
</tr>
<tr>
<td>pluperfect</td>
<td>-diydi/-misti</td>
<td>I came long time ago</td>
</tr>
<tr>
<td></td>
<td>geldiyim (unusual)</td>
<td>I came a long time ago, I had come</td>
</tr>
<tr>
<td></td>
<td>gelmistim</td>
<td></td>
</tr>
</tbody>
</table>

**Temporal adverbials**

Further devices for establishing temporal reference between TT and TU are positional adverbials (TAP) denoting points in time, dön ‘yesterday’, şimdi ‘now’, binnen ‘at once’, and sonra ‘later’. Frequentative and durative intervals are indicated by adverbials like her zaman ‘always’, and, for temporal contrasts, Turkish uses, for example, yine ‘again’. In general, the adverbial system is similar to the Dutch system.
Aktionsart

Turkish marks inherent features of the event on the verb by using the suffix -yor for events and -mis for states (as a result of past events).

Discourse means: TT to TT linking

Besides morphosyntactic tense and aspect marking, a rich repertoire of suffixes are applied to non-finite verb forms, indicating a particular TT linking between the subordinate constituent and the main clause events. A collection of verbal particles or “converbs” allow for various sorts of verb chaining to indicate temporal and causal relations. As these subordinated structures do not contain conjunctions or tense marking, they are syntactically more similar to the attributive past participle constructions of Dutch than to subordinate temporal clauses. The most important postpositions are önce /+ ablative/ ‘before’, sonra /+ ablative/ ‘after’, beri /+ ablative/ ‘since’, kadar /+ dative/ ‘until’, and zaman /+ gerund/ ‘when’. Other linguistic devices for TT-chaining in Turkish are nominalised verb forms which serve as adverbial clauses. Temporal conjunctions are rare and scarcely applied in spoken Turkish. The only one which seems to be used more frequently is ondan sonra ‘and then’.

A special case in Turkish is the coordinating conjunction ve ‘and’. Although it is syntactically correct to connect adjacent utterances by means of ve, it is, in a pragmatic sense, not the preferred way (Aarssen 1996: 131). The form ve is not very often used in adult speech and not at all in adult writing. More often, the converb -ip ‘and (then)’ or mere juxtaposition, without any lexical or morphological marking, is used. The converb -ip serves to package constituents of an event into a larger event (Aksu-Koç 1994: 347 and Lewis 1986: 206) and is close in meaning to Indo-European coordinating conjunctions.

Word order

Neutral word order is SOV, with frequent deletion of subject pronouns, since person and number of subject are marked on the verb. For adverbials of time and place, the unmarked word order in Turkish is as follows: S (tadv) OV (Erguvanli 1984). In the absence of a subject NP, the time/place adverb occupies a sentence-initial topic position, setting the scene within which the predication is to hold. These adverbs may occur in topic (the sentence-initial position), focus (the immediately preverbal position), or background position (in Turkish, the postpredicate position) (Erguvanli 1984).

3.1.2 Temporality in Moroccan-Arabic

Moroccan-Arabic is a spoken Arabic dialect, which all native Moroccan speakers learn as their mother tongue before they begin formal education. Geographically, Arabic dialects are distributed along innumerable sets of intersecting continua, from Morocco in the west to Oman in the east, and from the borders of Southern
Turkey in the north to Sudan in the south. “Classic-Arabic” is only taught in school and then used in formal (written) contexts. It is very difficult to find formal descriptions of the spoken dialectal forms, at least with respect to temporality

**External temporal relations**

It has often been said (Binnick 1991, Caubet 1986) that Moroccan-Arabic (MA) has no explicit grammatical tense marking. Instead of referring to present and past times, the morphosyntactic markings on the verb indicate the completeness (perfect) or incompleteness (imperfect) of the event they refer to. In addition, there is a very productive active past participle which indicates the progressive aspectual viewpoint. This means that the temporal relation between TT and TU is not morphosyntactically encoded but that the temporal relation between TT and Tsit as completed or incompleted/ongoing is obligatorily marked at each proposition. It can be synthesised very roughly from the various descriptions of the MA verbal system, that there are two verbal conjugations: one which is prefixed and indicates incompleteness and one which is suffixed and indicates completeness. Prefixed means that person, gender, and number markings are established by means of prefixes of phonemes to the verb stem (with an additional suffix for the second person feminine) and in the case of the suffixed form these markings are in postposition of the verb stem. The pure prefixed form is only used in marked cases (proverbs, vague future, orders, wishes, optatives, and so on). In order to assert the reality of an ongoing (intransitive) event, the progressive-like form in MA is conveyed by the prefixed form with an additional prefixation of a (durative) particle _ka-_ or _ta_, dependent on the regional varieties (Bos 1997: 116).

Besides these three verbal forms, (a) the ‘pure’ prefixed, the (b) _ka_ + prefixed, and (c) the suffixed form, MA uses a very productive participle which usually indicates the progressive of intransitives. Caubet (1993: 31) distinguishes the following four verb forms:

(a) prefixed forms (only used in marked cases);
(b) particle _ka_ (or _ta_ ) + prefixed form (usually denoting an incompletely action/situation);
(c) suffixed form (usually denoting a completed action/situation);
(d) active participle (usually denoting incomplete action/situation, but denoting a completed action/situation if occurring in combination with a suffixed form).

The concepts prefixed and suffixed concern the conjugation of verb forms for person. A verb form is made up of a so-called “root”, which carries the lexical meaning and usually consists of three or four consonants, like _s-r-b_ ‘to drink’ and _k-t-b_ ‘to write’. This root-form is the basis for a further integration with infixes, suffixes, prefixes, particles, and a combination of these. I do not go into the details of the conjugation of the four different verb forms (and their combinations), but instead describe their meanings in language use.
Table 3.2  The Moroccan-Arabic temporal system (based on Bos 1997: 117)

<table>
<thead>
<tr>
<th>person</th>
<th>prefixed</th>
<th>ka+prefixed</th>
<th>suffixed</th>
<th>active participle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 fem</td>
<td>ne-sreb</td>
<td>ka-ne-sreb</td>
<td>sreb-t</td>
<td>fem: sarba</td>
</tr>
<tr>
<td>2fem</td>
<td>t-serbi</td>
<td>ka-t-serb-i</td>
<td>sreb-ti</td>
<td>masc: sareb</td>
</tr>
<tr>
<td>2masc</td>
<td>te-serbi</td>
<td>ka-te-serb</td>
<td>sreb-t(0)</td>
<td></td>
</tr>
<tr>
<td>3fem</td>
<td>te-sreb</td>
<td>ka-te-sreb</td>
<td>serb-at</td>
<td></td>
</tr>
<tr>
<td>3masc</td>
<td>ye-sreb</td>
<td>ka-ye-sreb</td>
<td>sreb-i</td>
<td></td>
</tr>
</tbody>
</table>

Inflected verb forms often combine into complex clusters, notably in connection with the auxiliary *ka:n* and what I call roughly “modifying” verbs such as *bda* ‘to begin’, *bqa* ‘to remain’, *gadi* ‘to be going to’, etc. These complex verbal clusters are often combined with *tadv* (dizma ‘always’, *daba* ‘now’, *l-bu:nH* ‘yesterday’). It is this combination of various linguistic means which allows the speaker to express very subtle shades of temporal and aspectual meanings and it can be schematized in the following way (Giacomi et al. 2000: 35):

\[(3.1)\)   -(adv)+(AUX ka:n) + (modif. verb) + (KA) + [(conjug. verb) + (active part.)] + (adv.)

If you want to mark that an event is unbounded with respect to a particular TT, TT in Tsit (which can be in the past, present, or future and this is specified by a *tadv*), you use one of the two imperfect prefixed forms depending on the actual prefixed *kae* form (3.2 a) versus the ‘pure’ prefixed form non-actual distinction (3.2 b). The default reading is that the TT is present, otherwise, if it is not clear from context or a *tadv*, the AUX *ka:n* is added:

\[(3.2)\)  TT is included in Tsit, actual reality reading:
  a. ‘they are writing’: *ka:y-ketbu*
  b. ‘they were writing’: *ka:n y-ketb-u*

The suffixed conjugation is roughly equivalent to the Dutch and French perfect. It sometimes indicates the aspectual post-state viewpoint of an event at TT, the anteriority of Tsit < TT, but in most cases it indicates a past tense, the anteriority of TT < TU.

\[(3.3)\) ‘they have written’: *ketb-u* (at past, present or futur TT)

By using the active participle form, a strong link is made with the moment of utterance. The following three values are mentioned in the literature; present perfect, “actual” present, and prospective which are to be induced from the context.
**Temporal adverbials**

Caubet (1986) describes almost the total repertoire of temporal adverbials in MA and their contexts of use. I do not give an overview of all these adverbials and context because this system is very similar, in semantic and in structural perspective, to, for example, the Dutch and English system.

**Word order**

In MA, the complement always follows the verb (VO); the word order in the embedded sentence is also SVO. With respect to the position of adverbials in an utterance, Holes (1995) says the following about Moroccan Arabic:

> “Where there are two complement phrases, it is very common indeed to find an adverbial in sentence-initial position, particularly where it is temporal (e.g. *On the morning of the 2 August 1992*...) There seems to be no preferred order for any additional adverbial complements of location or time which follow V-S-COMP or V-COMP-S, save that the positioning of an adverbial element at the end is an indication that it may be taken up as the theme of the succeeding text.” (Holes 1995: 208).

### 3.2 Temporal notions in the target languages

The main difference between the target languages Dutch and French and the source languages MA and Turkish is the degree of grammaticalization of the main aspectual distinction: imperfective versus perfective. In French, this aspectual distinction is only grammatically encoded in the past (imparfait versus passé composé). Dutch has the possibility of marking imperfectivity with periphrastic constructions, so-called locatives (see below) but the exchangeability with the present perfect and the simple past forms for establishing past reference in discourse is very difficult to grasp.

#### 3.2.1 Temporality in Dutch

Dutch is a West-Germanic language. Person and number are marked by the desinences of the finite verb (which is the lexical verb or a copula, an AUX or a modal verb). I use as basic references for the description of Dutch: Geerts et al. (1984), Janssen (1994), Boogaart (1999).

**External temporal relations**

The verb system is basically a tense system, i.e., the two conjugated verbal paradigms of the simple forms are built upon the present - past tense distinction (or present tense versus preterite tense, following Janssen 1994):
Drinken 'to drink' is a "strong" verb category so vowel change for the past tense marking.

Both constructions contain elements that may also be used to refer to spatial concepts, as is often the case in temporal reference; see for instance Bybee, Perkins and Pagliuca (1994).

I will not consider here the semantic difference between the pluperfect and the present perfect. The semantic uses of the pluperfect will be neglected and I will simply assume that what is said here for the perfect holds also for the pluperfect.

The meaning of these two simple forms is clearly TT=TU for the present tense (a) versus TT < TU for the preterite tense (b). The relation between TT and Tsit for both cases is by default a simultaneous one. Therefore, there is no clear systematic morphosyntactically encoded contrast between TT IS INCLUDED IN Tsit (imperfective/progressive) and TT INCLUDES Tsit (perfective), like, for example, in English. However, there are two very productive periphrastic constructions in Dutch which I will call 'locatives'.

Past tense reference
As far as past tense reference is concerned, Dutch, like German, is said to "suffer" from “Präteritumsschwund”, (see for example, Eisenberg 1986); the preterite simple past form is in the process of being replaced by the present perfect complex verbal form. The Dutch perfect is constructed by the AUX of hebben 'to have' or zijn 'to be' plus a past participle, e.g., hij heeft gewerkt 'he has worked' hij is gekomen 'he (is)/has come'. The choice of AUX depends on the particular verb and has to be learned individually. There is a strong debate going on in the literature (Boogaart 1999, Janssen 1989, 1991, 1995, Koefoed 1984, Verkuyl 1989) with respect to the meaning of the Dutch perfect (for German, see Klein 1998).

In the literature, there is a common assumption about the fact that the Dutch perfect has two different readings, one in which it corresponds to the English present perfect (see (3.6a) below) and another in which it refers, in contrast to the English present perfect, undoubtedly to the past tense (see (3.6b) below):

(3.4) a. ik werk I work ik werkte I worked
    b. ik drink I drink ik dronk I drank

(3.5) a. aan het INF zijn ('on the INF to be')
    b. zitten/liggen/staan/lopen/hangen te INF ('to sit/lie/stand/walk/hang to' INF)
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(3.6) a. Ik heb buiten de kerstboom versierd en nu heb ik pijn aan mijn schouder
I have decorated the Christmas tree outside and now I've pain in my shoulder
b. Ik heb buiten de kerstboom versierd en daarom heb ik de telefoon niet gehoord
*I have decorated the Christmas tree outside and that's why I did not hear the phone

If we use the metaphorical video-camera again, we “see” in (a) someone who is massaging his shoulder because he is in the post-state of having decorated a big Christmas tree outside and in (b) there is a direct reference to a past situation, the camera goes, as it were, back to the past time interval at the time axis when the telephone rang. In English, the second utterance would require a past progressive, a grammaticalized unboundedness marking. It is remarkable that in Dutch a (bounded) perfect tense is very common in these cases. Of course, one of the locative constructions is also possible in Dutch: ik was aan het versieren ‘I was on the decorating’ or ik stond de kerstboom te versieren ‘I stood decorating’, but this is certainly not required.

Another clear difference between the Dutch and the English perfect tense is that the Dutch under both readings, freely combines with past positional adverbials:

(3.7) a. Gisteren heb ik buiten de kerstboom versierd en daarom heb ik de telefoon niet gehoord
*Yesterday, I have decorated the Christmas tree outside and that’s why I did not hear the phone
b. Gisteren heb ik buiten de kerstboom versierd en nu heb ik pijn aan mijn schouder
*Yesterday, I have decorated the Christmas tree outside and now I’ve got pain in my shoulder

I would like to note here that Klein (1998) argues for a solution according to which the difference between the aspect-like reading and the tense like reading of the perfect is merely a difference of scope. He calls the aspect-like reading a post-state reading and the tense-like reading a post-time reading. Post-states are states that occur as a consequence of an event having occurred. The most clear cases are the post-states of 2-state verbs (see section 2.2.1). In contrast, post-times are simply time intervals. A post-time of an event is a time interval whose initial boundary is defined by the right boundary of an event. The relevant post-state of taking a purse is ‘to have the purse in your hands’. But, in the case of an utterance like Gisteren heb ik een portemonnee gestolen ‘Yesterday I have taken a purse’, Klein would say that the time-locational adverbial gisteren ‘yesterday’ is in the scope of the perfect and the clause refers to the post-time of the event of taking the purse on the day preceding the day of utterance (and not to the fact that I now have the purse at my disposal). The time of utterance falls within this post-time, so, in effect, under a wide scope the perfect indicates that the target event falls into the past of TU, as would the preterite tense.

In sum, Dutch speakers have to choose from three forms when establishing
past tense reference: (1) the simple past, the preterite tense, (2) the present perfect, and (3) the locatives in the past tense.

Although it has often been assumed that the competition between these three forms for establishing past reference in Dutch is not a systematic one, Boogaart (1999) shows a systematic and predictable distribution of these forms depending on (a) Aktionsart and (b) discourse type. In Dutch as in English discourse, the simple past tense (preterite in Dutch) can have both an imperfective and a perfective reading. However, it is often assumed that for example the English past tense is “more” or “more often” perfective than its Dutch counterpart (e.g., Bache 1985). Boogaart (1999) gives an explanation of this difference in use in terms of a difference in degree of grammaticalization of the English progressive -ing form and the Dutch progressive locatives. He argues that whereas the use of a progressive to express imperfective aspect is obligatory in English for all categories of verbs (all Aktionsarten) except for states, in Dutch the use of a locative is only obligatory for imperfective achievements.

With respect to discourse type, Boogaart argues that the present perfect is “out” in Dutch narrative discourse because the temporal reference must be independent of the here and now of the speaker in a narrative. In a non-narrative discourse, the preterite tense does have a clear imperfective interpretation. To conclude, for a perfective past time reference reading in a non-narrative discourse, speakers of Dutch use a present perfect, as in a variation of Partee’s well-known example (“uttered halfway-down the turnpike” 1984:244):

(3.8) \( \text{Ik heb het gas uitgedraaid} \)
\[ \text{I turned off the stove} \]

As a consequence, use of the unmarked preterite as in \( \text{ik draaide het gas uit} \) ‘I was turning off the stove’ automatically results in an imperfective interpretation in the past in a non-narrative discourse. However, in a narrative discourse, the use of the present perfect would be not felicitous and a preterite tense is required:

(3.9) \( \text{Voordat hij het huis verliet deed hij alle gordijnen dicht en draaide hij het gas uit} \)
\[ \text{Before he left the house, he closed all the curtains and he turned off the stove} \]

\footnote{This implies that personal narratives often belong to the non-narrative descriptive type of discourse although speakers often “relive” their past events again and retell their past experiences in a narrative style. F. Poels, a colleague teacher of French, once told me that he has the idea that speakers look to the left when they retell in a vivid narrative way their personal past events.}
Let us now take again Klein’s example of the “scene of the crime” in the example of section 2.1.4:

(2.8)’ What did you see when you entered the room?

a. A man was lying on the floor.
b. He was Chinese or Japanese
c. He did not move
d. A woman was bending over him
e. She was taking a purse from his pocket
f. She turned to me
g. She said:
h. They have gone

The translation (my translation) in Dutch would be as follows:

(3.10)  
a. er lag een man op de grond
b. hij was een Chinees of een Japanner
c. hij bewoog niet
d. een vrouw stond over hem heen gebogen
e. ze was een portemonnee uit zijn zak aan het pakken
f. ze draaide zich om naar mij
g. ze zei:
h. “ze zijn vertrokken”

The Dutch utterances (a), (b), and (c) all get the preterite tense (the present perfect would not be felicitous in this narrative discourse) but (d) and (e) have to have a locative form because otherwise they would not have been imperfective ‘enough’: the preterite tense in Dutch narrative discourse does not have enough imperfectivity for the clear 2-state (achievement) verbs ‘take a purse’ and ‘bend over someone’. Also, (f) would be not appropriate in the present perfect form; in narrative discourse the simple past does have the right perfective interpretation. The last utterance is an example of direct speech: the topic time is the same as the time of utterance TT=TU and both in English and in Dutch in the case of a clear post-state reading, the present perfect tense is used.

We see a nice example of the use of direct speech for establishing a vivid narrative, in the following Dutch narrative. This is a strategy which is also very often used by the learners in the present study because it allows for a present (perfect) tense coding. The core narrative form in this narrative discourse type is the preterite tense:

(3.11a)  
a. dus je baas probeerde je op een SRV-wagen te zetten
   so your boss tried to put you on a SRV-car
b. nou, da was op een gegeven moment
   yes, at a certain moment
c. toen kwam ik ‘s morgens vroeg rond m'n uur of twee pas aanzetten
   I arrived early in the mornig at two o’clock
d. dus toen zeide goedemiddag tegen mij
   so he said good afternoon to me
e. ik zei ik ben daar van plan
   I say that I do not have the intention
f. ik zei ik kap er vanavond mee
   I say I quit tonight
g. ik zag want ik heb er nu genoeg van
   I say because I have enough of it now
h. ik zag voor die paar rozententen die ik hier werk
   I say for that little damned money that I work here
i. ik zag ik heb het altijd met liefde gedaan
   I say I have always done it with love

In the following Dutch narrative, we see a locative *ik stond gewoon de ramen te wassen* 'I just stood cleaning the windows', an inchoative *gaan staan* 'go stand up' and a few "historical praesens" forms like *en die ziet me zo staan* 'and she sees me so standing'. The core form is again the pereterite.

(3.11b) a. Heb je ooit iets raars als glazenwasser meegemaakt?
   Did you ever experienced something strange as a window-cleaner?
   ja een keer op zo'n school
   yes, once at such a school
   toen moesten we gewoon de ramen wassen van de douches
   then we had to clean the windows of the douches
   en daar kwam op een gegeven moment kwam daar een meisje binnen
   and there at a certain moment a girl came in
   en die ziet me zo staan
   and she sees me so standing
   en die loopt naar binnen toe
   and she walks inside
   en die kleed d'r eigen uit
   and she undresses herself
   en die gaat gewoon onder d'n douche staan
   and she just takes a shower
   daar stond ik gewoon de ramen te wassen
   and there stood I cleaning the windows

What does this mean for a second language learner of Dutch? The input that is offered when s/he listens to past experiences consists of perfect tenses, preterite tenses, and past locative forms but also present tenses in direct speech and in historical praesens references. Which of these forms is "right" in a given context depends on the discourse type and on the internal features of the verb. Except in English, where imperfective and perfective contrasts are grammaticalized in progressive versus non-progressive forms not so dependent of discourse type and internal features of the verb, it is difficult to distinguish these forms.

**Word order**
The word order in Dutch main clauses is SVO and in subordinate clauses it is SOV. This means that in main clauses, the auxiliary and the main verb are split up in two different positions, the auxiliary being in verb-second position and the
main verb in utterance-final position. In subordinate clauses, verbs, both finite and non-finite, occur at the end. For example:

(3.12)  *ik weet* dat hij een appel eet  
[I know] that he an apple (is) eat(ing)

(3.13)  *ik weet* dat hij twee appels wil eten  
[I know] that he two apples want to eat

However, due to extra-position some constituents can occur after the verb:

(3.14)  *ik weet* dat hij drie appels heeft gegeven aan Maria  
[I know] that he three apples has given to Maria

In declarative main clauses, the finite verb always has to be placed in second position, after the first constituent. In declarative main clauses, the finite verb always has to be placed in second position, after the first constituent:

(3.15)  *hij eet een appel vandaag*  
he eats an apple today

If a constituent other than the subject is topicalized, the verb will precede the subject, with the topicalized constituent preceding the verb, so that the verb second position can be maintained:

(3.16)  *vandaag eet hij een appel*  
today eats he an apple

In declarative main clauses, the finite verb and the infinitives, participles, and verb particles are split up in two different positions, the finite verb being in verb-second position and the main verb or verb particle in utterance-final position:

(3.17)  *hij moet (MOD) morgen vier appels eten*  
he must tomorrow four apples eat

(3.18)  *hij heeft (AUX) gisteren vijf appels gegeten*  
he has yesterday five apples eaten

(3.19)  *hij eet zes appels op (PARTICLE)*  
he eats six apples up

As far as the position of adverbials is concerned, the adverbial can be placed in utterance-initial position,

with inversion (example 3.16),  
*adn-finite verb-subject - predicate*

in the middle of the utterance (example 3.17),  
*subject-finite verb-adn-predicate*
I have already showed in section 2.2.3 that, depending on the language specific scope rules, the temporal adverbial can specify different temporal parameters at different positions.

### 3.2.2 Temporality in French

French is a member of the Romance languages with a rich clitic system. In fact, the clitic-AUX-V constructions are very complex for a learner, comprising both ordering and co-occurrence constraints, and morphological tense/number/person case markings (see below). It is important to note here that because of the misleading relation between French orthography and spoken French, I will present the verb tokens in phonetic form in the rest of this study, both in the tables and the examples.

#### External temporal relations

As I did for the other languages, I restrict my description of the French temporal system to an introduction of those constructions that feature prominently in the empirical chapters of data analyses. As a whole, the semantic organisation of tense and aspect in spoken French can be characterized as heavily tense-prominent (TT - TU relation). The aspectual TT-Tsit distinction imperfective versus perfective only occurs in the past (imparfait, TT included in Tsit versus passé composé, TT includes Tsit). The passé composé is also used in the present tense for marking post-state TT > Tsit. This means that, as in Dutch, the passé composé (present perfect) can be used for both a post-state and a post-time meaning.

The distribution of the passé composé versus imparfait in French, in contrast to Dutch, is more systematic and not dependent on Aktionsart and discourse structure (see however, Weinrich’s erzählte and besprochene Welt 1964). Some periphrastic compounds like être en train de Vinf ‘to be Ving’ and se mettre à Vinf ‘to start Ving’, add a range of aspectual and phase perspectives. However, they are optional and less grammaticalized, for two reasons: (1) the V1’s in these expressions are at different intermediate stages between full verb and auxiliary, and some are semantically restricted with regard to the V2 with which they can combine. More examples of these means are être sur le point de + Vinf ‘to be about to’ V and venir de Vinf ‘to have just’ Ved.
Past tense reference
In order to illustrate how the French imparfait and passé composé are used in past tense context, I repeat here again “The scene of the crime” example from section 2.1.4 and I give the French translation in (3.20):

(2.8)’

a. A man was lying on the floor.
b. He was Chinese or Japanese
c. He did not move
d. A woman was bending over him
e. She was taking a purse from his pocket
f. She turned to me
g. She said:
h. They have gone

(3.20)

a. il y avait un homme qui était couché par terre
b. il était chinois ou japonais
c. une femme se penchait sur lui
d. elle était en train de prendre une portemonnaie de sa poche
e. elle s’est tournée vers moi
f. elle disait/a dit
g. ils sont partis

In general, the passé composé is the core narrative tense, as in example (3.21) below. This is an extract from grandmother’s personal memories of her youth, when she used to steal pears from a nearby garden (recording by G. Battier; see Dietrich et al. 1995: 149). The passé composé alternates with the narrative present (praesens historicum) for highlighting key events (d, e) and contrasts aspectually with imparfait for durative background situations (b) and temporally for relative anteriority with plusqueparfait (c).

(3.21)

a. mais puis alors elle a cherché après moi
  but then she looked for me
b. mais elle me trouvait pas
  but she didn’t find me
c. mais croyant qu’elle m’avait pas vu tomber là dedans
  but believing that she hadn’t seen me falling therein
d. je me mets à écarter la paille
  I start parting the straw
e. puis tout d’un coup elle dit “ah la voilà!”
  then she all of a sudden says “ah there she is”

The formal system
The verb complex including the obligatory subject pronoun is presented as one form in table 3.3, as it is pronounced as a single group, and the unstressed pronoun may be reduced. The English gloss gives only a rough equivalent.
Table 3.3  The French temporal system: simple forms

<table>
<thead>
<tr>
<th>Paradigms</th>
<th>Forms</th>
<th>examples: regular</th>
<th>examples: irregular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Présent</td>
<td>base stem + person-number</td>
<td>tu chantes</td>
<td>tu viens</td>
</tr>
<tr>
<td>Imparfait</td>
<td>base stem + impf. morph+ person-number</td>
<td>tu chantais</td>
<td>tu venais</td>
</tr>
<tr>
<td>Futur</td>
<td>base stem + /f/+ fut. morph + person-number</td>
<td>tu chantera</td>
<td>tu viendra</td>
</tr>
</tbody>
</table>

The (core) compound forms are formed with an inflected form of the following auxiliaries:

(a) perfect/anteriority series: AUX avoir or être + V (past part,) according to which main verb is chosen: passé composé (perfect): tu as chanté tu es venu
imparfait (pluperfect): tu avais chanté tu étais venu

(b) prospective series: aller + V infinitive for TT before Tsit

(c) retrospective series venir de +V infinitive for TT after Tsit

For learners of French, notably for those who learn French outside the classroom without ‘ever’ seeing the orthographic verbal forms it is very difficult to break apart these very opaque forms down into semantic units. Noyau et al. (in Dietrich et al. 1995: 147) mention the following reasons for this acquisition problem of segmenting and categorizing the verbal compounds in oral French:

(a) the suffix area is opaque: there is no straightforward relation between a morpheme and a given value for mood, tense, person, or number: -/e/ may be: Present 2nd plural; infinitive; past part; imparfait for all persons but 1st and 2nd plural

(b) the prefixed area includes a cluster of entangled unstressed markers: subject pronoun-negation-object and/or oblique pronoun-inflected form of the auxiliary, with homophony between these categories: /c/- may be: AUX avoir 1st sing.; AUX être 2nd and 3rd sing.;

(c) there is a tendency to reduce subject pronoun forms in casual speech: /il/ → /i/ for ‘he’; /ty/ → /t/ for informal ‘you’ (2nd sing.);

/ile/ may be: 3rd subject pronoun + Present of être 3rd sing.

Word order

Standard French is generally characterized as an SVO language and indeed it exhibits most of the characteristics usually found in such languages. However, spoken French can also be considered a topic prominent language. The “neutral” canonical word order in French, Jean aime les pommes (SVO), is, according to Trévise (1996), rarely found in everyday spoken French. Trévise gives a list of about 30 different structures of a French utterance which, dependent on contextual constraints (topic-focus) vary in their order of constituents:
(3.22) Jean il aime les pommes
   Il aime les pommes Jean
   Ya (il y a) Jean il les aime les pommes
   Ya Jean les pommes il les aime
   C’est Jean qui aime les pommes
   C’est les pommes que Jean aime

It should be clear from these examples that the agent of the verb can appear in any order with respect to the verb: dislocated to the left (“topicalization”) and to the right (“anti-topicalization”). Time, place and other adverbials tend to be placed in utterance-initial position or utterance-final position.

3.3 Conclusion

I have restricted myself to the way these languages encode (or not!) the TT-TU (tense) and TT-TSIt (aspect) relations. The question now is whether these system similarities and differences have any acquisitional implications. The possible implications of this preliminary “contrastive analysis” will be formulated at the beginning of chapter 5 when I present a competition of cues that possibly determine the shaping of the acquisition process of verbal morphology in the target languages. In the empirical part of this thesis (chapters 7 and 8), these predictions will be tested against the data, taking this descriptive analysis into account.
Chapter 4

The acquisition of temporality in a second language

This chapter reviews previous research on the acquisition of temporality in a second language. The study of temporality has been approached from two major methodological perspectives, first from a form-only approach (cf. Brown 1973, Dulay & Burt 1974) and from the 80's on also from a functional approach (cf. Andersen 1987, Dietrich et al. 1995, Sato 1990, von Stutterheim 1986). Researchers working within the functional domain can be divided in two camps: those who conduct form-to-function (fo-to-fu) analyses and those who conduct function-to-form (fu-to-fo) analyses (or concept-oriented analyses; see von Stutterheim & Klein 1987). In the latter camp, researchers take as a starting point of their analysis different conceptual domains like time, space or modality, and the analysis seeks to explain how sub-components of these domains are expressed at different stages of acquisition. They do not focus on morphological tense and aspect inflection but look at the total repertoire of explicit (lexical and morphosyntactic) and implicit (discourse-pragmatic) means learners use at a given time of their acquisition. Researchers working within the fo-to-fu domain, however, concentrate almost exclusively on the acquisition of tense and aspect inflection. Their starting point is to trace a form (a morpheme on the verb) and to look at its distribution in the learner data. The fo-to-fu analyses can be further divided into two groups according to the function of the morphemes that are investigated, as markers of lexical aspectual category or of discourse organization. Most studies have investigated these two functions separately, testing either the lexical aspect hypothesis or the discourse hypothesis.

After a general introduction of these two different analytic frameworks, I continue by describing the methodological considerations, research questions and hypotheses behind the fu-to-fo and the fo-to-fu analyses within the functional perspective on language acquisition. I then try to compare the results of these two analytic perspectives to conclude that in describing and explaining the acquisition of temporal reference in a second language more uniform approaches to reporting results are needed. Although the present study starts from a conceptual and mainly qualitative analysis of temporal reference, I do certainly not avoid quantificational analyses of (lexical and morphosyntactic) forms testing the prediction hypothe-
ses as they are formulated within the fo-to-fu framework. I also re-integrate a third hypothesis which is the “classic” grammatical aspect before grammatical tense hypothesis because I do not want to exclude a grammatical aspect or grammatical tense function of early allomorphische variations of basic verb forms.

Further methodological requirements that are needed for a general theory of L2 acquisition (or Second Language Acquisition: SLA) of temporality are longitudinal and cross-linguistic data from typologically diverse languages, which cover both the formal and the semantic-functional dimension of temporality. Bardovi-Harlig (1999) and Housen (1994) both provide a helpful survey of the relevant methodological issues, empirical results and theoretical implications of about fifty studies in the field of temporality in a second language, most of them conducted in the 90’s. We will see that only few of them have a longitudinal and cross-linguistic design and most of them focus on (past personal) oral narrative data.

This chapter consists of two main sections. The first section gives an overview of the methodological considerations and theoretical background of the various types of analytic approaches. Section 4.1.1 gives a general introduction of the main research paradigms in second language acquisition research about temporality: the form-only versus the functional paradigm. I then further explore the methodological approaches and theoretical considerations within the functional research perspective. I start by describing the research questions of the fu-to-fo methodological approach (4.1.2) and then in, 4.1.3 the research questions and the two main hypotheses of the fo-to-fu approach are given.

In the second section, I compare the results of the two different types of analyses conducted within the functional approach. Section 4.2.1 reviews previous empirical findings of the fu-to-fo analyses and in 4.2.2 the results of the two competing hypotheses about the distribution of verbal inflection within the fo-to-fu approach are compared. Section 4.2.3 provides an integrating picture of results reported in the literature of both fo-to-fu and fu-to-fo studies on the distribution of emergent tense-aspect morphology in second language acquisition: (1) the lexical aspect hypothesis, (2) the discourse hypothesis and (3) the grammatical aspect before tense hypothesis. In the last section 4.3, I consider possible explanations for and theoretical implications of these findings and finally in section 4.4 I summarize the chapter.

**4.1 Methodological and theoretical considerations**

In this section I give a review of the relatively short history of research in the field of temporal reference in SLA. The first part of this section describes the methodological and theoretical considerations behind the three main approaches to the acquisition of temporality, that is, (1) form-only studies, (2) function-to-
form studies and (3) form-to-function studies. After a general introduction of these three methodological approaches in section 4.1.1, I will go on by describing the research questions of only the fu-to-fo and the fo-to-fu studies within the functional approach. After a description of the research questions behind the fu-to-fo analyses (4.1.2), I will give the current state of the art in the fo-to-fu type of research which provides us with two clear predictional hypotheses: (a) the lexical aspect hypothesis and (b) the discourse hypothesis (4.1.3). However, in reviewing the results of these fo-to-fu hypotheses in the second part of this section, we will see that, despite of the clarity of the hypotheses, their results are very difficult to compare. A very confusing terminological repertoire gives, not surprisingly, rise to a heterogenous set of findings.

4.1.1 From morpheme-studies to discourse-studies

The first studies on temporality in SLA were form-only studies and they concentrated exclusively on the formal aspects of temporality, notably verb morphology. The most well-known examples of the form-only approach are the morpheme studies of Dulay and Burt (1974) of large cross-sectional data from L2-learners of English. Based on the methodology developed within child language acquisition studies (e.g., Brown 1973), these morpheme-oriented studies tried to determine the order of acquisition of grammatical morphemes by ranking the selected morphemes in terms of correctedness in obligatory contexts. The use or acquisition of a form was basically considered to be the same as the use or acquisition of the target-like form without considering any other semantic or functional value.

Most of the current form-oriented research on tense and aspect is conducted within the framework of generative (UG) studies of language (Schwartz & Sprouse 1996, Vainniko & Young-Scholten 1996; for a survey see Ellis 1994). Focus in these studies is exclusively on the acquisition of the syntactic properties of inflectional morphemes and their abstract underlying representations: The language learner must learn how to coordinate both the semantic and syntactic properties of temporal markers as verbs may surface in different syntactic slots, depending on whether they are finite or non-finite. Usually, research in the UG framework does not consider conceptual properties of the linguistic means used and consider verbal markings as person-agreement (Parodi 2000) or as purely “tense-markings” not distinguishing tense and aspect functions.¹

Bardovi-Harlig (1999: 345) mentions a shift in focus in the 1980s from the acquisition of morphology as form to a focus on morphology as “the surface realization of an underlying semantic system” (p 345). She describes two main

¹ See Behrens (1993) who proposes an integration of a fu-to-fo and a UG analysis of temporal reference in German L1 acquisition
issues of research: On the one hand, we find researchers who investigate the expression of semantic concepts through various linguistic devices. This is the function-to-form approach. On the other hand, other researchers concentrate on the investigation of the expression of verbal morphology as an indicator of the underlying semantic system of the learner languages. This is the form-to-function approach. It is important to note that both approaches claim to take an “interlanguage” perspective (Selinker 1972), that is, they describe the learner language as a system on its own right independent of the target language. In the fu-to-fo or concept-oriented approach (von Stutterheim 1991), this independency from the target language is even more strongly accentuated; fully-fledged languages are considered as the extreme (final) cases. At each stage of acquisition, a new balance is established between various types of linguistic means (lexical, morphosyntactic) in interaction with implicit discourse principles like the Principle of telling events in their Natural Order (PNO, see chapter 2 of the present study). Therefore, proponents of the fu-to-fo approach believe that the focus of analysis must be on sequences of utterances instead of on morphemes in isolated sentences as in the earlier days of SLA research or in recent generative studies. Within this approach, the acquisitional process is considered as a sequence of learner varieties, and this sequence in turn follows certain regularities. It is still unclear how to pin down the causal factors behind these regularities, which must be a combination of general cognitive principles, characteristics of source and target languages, individual and social learning conditions and so on.

Both analytic approaches have their advocates and opponents. Those who advocate the fo-to-fu analyses take as the starting point of analysis forms (usually verb morphemes) already available in the target language. They then try to give meanings and functions to these explicit forms. Opponents of the fo-to-fu approach warn against the danger of “closeness fallacy” of forms used by the learners (Dietrich et al. 1995). If the learner uses a target-like form, the analyst may easily led to ascribe to the learner meanings and functions he might not “have”. Moreover, I think that, especially at early stages, learners heavily lean on implicit non-linguistic devices which are almost impossible to grasp in form-to-function studies. Sato (1990: 11) claims that such non-linguistic strategies and the functions which they express are better revealed in a function-to-form than by a form-to-function analysis because a fo-to-fu oriented analysis precludes analysis of meanings and functions which a learner has not yet encoded in particular surface forms.

Proponents of the fu-to-fo approach argue that an utterance by utterance analysis of a stretch of a learner’s discourse is the only way to capture the total range of explicit linguistic temporal reference means and implicit discourse-pragmatic principles learner’s use to establish the temporal relations between events. Housen (1994), however, wants to view the two directions of analyses as complementary and he expresses his caution with respect to a too strict function-to-form analysis as follows:
“The main problem of any approach which considers communication devices beyond linguistic surface forms is that it is not clear whether, in what ways and to what extent the speaker’s and hearer’s (and the analyst’s) perspectives differ. How can one know (and describe) learners’ intended meanings if they do not express them formally? Both as a hearer and as an analyst one may assume that there are certain general temporal meanings which the learner will or is likely to express. But how can one be sure of the nature of the relevant basic concepts and functions that must serve as the starting point of analysis? That is, are notions such as pastness, anteriotity or imperfectivity indeed a priori definable and universally specifiable? And how can these putative universal notions be operationalized independently from form so as to avoid tautological reasoning and circularity of analysis?” (Housen 1994: 137)

These questions bring us back to the problems mentioned at the beginning of chapter 2, i.e. the definition of conceptual universals of temporality and the relation of linguistic expressions to mental impressions which cannot be a direct or unique one (see section 2.1 of the present study for a discussion of the problematic operationalization of the perfective/imperfective distinction; see also von Stutterheim 1986). First of all, I think that the speaker’s and the analyst’s perspective, even with the explicit forms at their disposal, are never necessarily the same. It can take years before analysts finally see what learners’ utterances try to express. Nevertheless, Trévise (1997) argues that at the earliest stages of language acquisition characterised by only invariable expressions, one has sometimes the idea: “to look through an open window seeing mental representations in a chain”. According to Trévise early productions have the advantage, for the linguist, that they are not “opacifiées” /blurred by “le foisonnement” of linguistic representations in their totality. There is certainly not a one-to-one relation between mental representations and linguistic representations (marquers et agencements), but here one has something which comes very near to a maximal coincidence (Trévise 1997: 56).

Secondly, the relation between what is said in words and what must be filled in on the basis of world knowledge and situational and contextual information is (especially in second language acquisition) a fragile one, if not the crux of second language research. In order to decide which methodological approach to follow, I believe, it is the best to let the nature of the data decide. For example, for the early stages a function-to-form-analysis and for the later stages a form-to-function analysis. For the early stages, the analyses are often very exploratory and the

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2 “On a pourtant l’impression d’avoir une fenêtre entreouverte sur des représentations mentales, enchaînées entre elles. Le productions présentent l’avantage, pour le linguiste, de ne pas être opacifiées par le foisonnement des représentations linguistiques dans leur totalité. Il n’y a certes pas de relations terme à terme entre les représentations mentales et les représentations linguistiques (marquers et agencements), mais ici on a ce qui se rapproche sans doute fort d’une coïncidence maximale.”
linguistic means to grab are too few to offer something to hold on. This type of data asks for explorative function-to-form analyses. For the later stages of acquisition, where the range of surface forms is more clearly definable, the focus may shift to a form-to-function analysis. Another possibility is, I think, to adapt the type of analyses to the type of communicative tasks learners fulfill. More stimulus-controlled data can be analysed in a form-to-function way and spontaneous personal narratives benefit more from an utterance by utterance function-to-form analysis which allows the retrieval of implicit discourse principles as I have sketched them in chapter 2 (section 2.3). With these methodological caveats in mind I will first present a look at the research questions, the hypotheses and theoretical considerations behind the fu-to-fo studies and the fo-to-fu studies before turning to their empirical results.

4.1.2 Research questions behind function-to-form studies

One of the largest function-to-form or concept-oriented studies on temporality (Klein & von Stutterheim 1987) is conducted within the frame of a larger longitudinal project on Second Language Acquisition by Adult Immigrants, organized by the European Science Foundation and coordinated by Wolfgang Klein and Clive Perdue. It is also the only truly cross-linguistic research on the second language acquisition of temporality. Its research design includes a longitudinal study of the second language acquisition of five target languages (English, French, German, Swedish, Dutch) by adult immigrant speakers of six source language backgrounds (Punjabi, Italian, Turkish, Moroccan Arabic, Spanish, Finnish) over the first three years of stay (three cycles) in their respective host countries.
The study was conducted by five teams of researchers, one team for each target language. To ensure the comparability of the findings great care was taken that the same research agenda, the same theoretical frame and the same kind of data collection and analytic procedures was followed by all teams (for a complete overview, see Perdue 1984, 1993; see also chapter 5 of the present study). With respect to temporality research, the investigations have heavily focussed on reference to the past in personal narratives (Dietrich et al. 1995: 13):

“Narrative is a well-studied discourse-type, with a well-studied temporal structure (Reinhart 1984). The speaker recounts what happened to him, or her, in the past(...). They consist of a series of singular actions which follow each other according to PNO.”

In addition stimulus-controlled data (e.g. film retellings) were analysed in order to control as much as possible the story-line given by the stimulus. For a representative quantitative impression, one may take the German data set: The average length of a narrative is 45 utterances; 45 times 3 (cycles) times 5 (informants) is 675 utterances. In addition the same number of utterances from the film retellings, makes 1350 utterances per local subsample and a total of 6750 for the whole project. (That corresponds to about 44 hours of tape on a basis of 20 minutes per file). The main research questions of the ESF studies were (Dietrich et al. 1995: 261) the following three: First, how do learners express temporality at a given stage of their acquisitional process? Second, how do learners proceed from one stage to the next, and what developmental patterns emerge? Third, what are the explanatory factors which can account for the form and function of the learner system at a given time, and its gradual transformation towards the target language? The general empirical results of this studies will be described in detail in the next section. At this point, I only want to summarize the outcome in one sentence: The expression of temporality goes from pragmatic to lexical to grammatical devices which corresponds to the use of (a) discourse principles such as PNO, (b) temporal adverbials, (c) verbal morphology.

Other longitudinal and less cross-linguistic studies which are concept-oriented and deal mostly with untutored learners are Skiba and Dittmar (1992) Giacolone-Ramat (1992), Meisel (1987), Schumann (1987), Trévisé (1987), Sato (1990), von Stutterheim (1986). In fact, Schumann (1987) reports on three different methods of analysis, morphological, semantic and pragmatic, for capturing temporal reference in baslang speech (the earliest stages of the acquisition of English by one Chinese, one Japanese and three Spanish speakers). He concludes that the morphological analysis demonstrates that these baslang speakers generally lack verb phrase morphology and do not have a tense system. The semantic analysis examines the subjects’ utterances in terms of sentence-level semantics, classifying utterances according to (universal) categories such as completive versus non-completive action, habitual versus continuous action, etc. The semantic analysis
CHAPTER 4

shows that none of the subjects studied made tense or aspectual distinctions and that temporal marking was not established by the form of the verb. The pragmatic analysis examines how temporal reference was made by adverbials (including prepositional phrases), serialization of events, calendric reference, and implicit reference (temporal reference inferred from a particular context or situation). This last taxonomy (based on research by Aksu, Dittmar, Klein & von Stutterheim 1982, Perdue 1984) appeared to capture the expression of time at the basilang level much better than did the previous two analyses.

Because of the explorative character of the fu-to-fo analyses, these studies do not start from a strict set of hypotheses but from a taxonomy of temporal reference functions which the learner needs or may want to express. As we will see in the next section, most of the current fo-to-fu studies start from one or two hypotheses concerning the distribution of inflectional morphemes: the lexical aspect hypothesis and/or the discourse hypothesis.

4.1.3 Research questions behind form-to-function studies

The form-to-function studies identify a form and trace its distribution in learner varieties, thereby determining its function. They are essentially concerned with the latest stages of development, namely the development of morphosyntactic tense and aspect markings. Bardovi-Harlig (1998) provides a broad survey of the relevant research and divides these form-oriented analyses into two groups according to the function that they investigate: The first group sees verbal markings as markers of lexical aspeclual category (inherent temporal features) and the second group sees verbal markings as markers of discourse organisation. The fact that lexical aspect and discourse organisation are not unrelated is already shown by work on fully-fledged languages (Dowty 1986, Dry 1981, Hopper & Thompson 1980) and on second languages (Andersen & Shirai 1994, Bardovi-Harlig 1994, 1998, Flashner 1989, Kumpf 1984). However, most second language studies investigate these two functions independently (for a large overview see Bardovi-Harlig 1998). This implies that in the literature about the acquisition of morphosyntactic tense and aspect marking, there is a debate about two controversial hypotheses regarding the functional distribution of emergent tense-aspect morphology:

(1) the aspect hypothesis; the emergence of tense and aspect morphology is determined by the inherent lexical properties of the verb (lexical aspect or Aktionsart), and
(2) the discourse hypothesis; the distribution of emergent tense-aspect morphology is determined by narrative structure.
I suppose that part of the controversy stems from the confusion between two versions of the aspect hypothesis. One version of the aspect hypothesis is totally intertwined with the idea that learners mark viewpoint aspect (e.g. imperfectivity, perfectivity, progressivity) before they mark tense (e.g. past, present and future), that is in fact, a grammatical aspect before grammatical tense hypothesis. The other version of the hypothesis, what I call the “lexical aspect” hypothesis, does not claim anything about an order of acquisition between grammatical aspect and grammatical tense marking. It claims that learners first will use the tense and viewpoint aspect morphology of the target language to redundantly mark inherentaspectual distinctions. Note that this lexical aspect hypothesis and the previous discussed discourse hypothesis within the form-to-function approach do not assume that the earliest formal markings on the verb have a grammatical tense or aspect function but a discourse or lexical aspect function. For sake of clarity, in the following I will totally ignore the claims behind the grammatical aspect before tense hypothesis. I only summarize the claims as formulated within (a) the lexical aspect hypothesis and (b) the discourse hypothesis.

(a) The lexical aspect hypothesis
The investigation of the role of inherent (or lexical) aspect in the developmental distribution of temporal morphology in second language acquisition was initiated by Andersen (1987, 1991). Andersen was inspired by Bickerton’s (1975, 1981) hypothesis that verb morphology in creolization and first language acquisition develops as a function of the innate semantic punctual–non-punctual and state-process distinctions. Most of the studies within the fo-to-fu framework use Vendler’s four-way classification of verb predicates in term of inherent aspect (Vendler 1967; cf. chapter 2). The most well-known distinction is the one between stative (states) and non-stative/dynamic predicates (activities, accomplishments and achievements). In its strongest formulation, as defined by Robison (1990), the lexical aspect hypothesis is called the “primacy of aspect hypothesis”, claiming that lexical aspect marking is acquired before grammatical viewpoint aspect and tense marking. This claim was already made before by Weist et al. (1984) for first language acquisition in the “defective tense hypothesis”. Robison proposed the alternative term because the term “defective tense” is misleading: Not only tense morphemes but also grammatical viewpoint markers are used “defectively”.

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4 One of the main reasons of opacity in the literature about temporality is that the term “aspect” is often used for both lexical aspect (inherent temporal features like telicity, stativity, or 0-, 1- and 2-state predicates in Klein’s framework) and grammatical viewpoint aspect.

5 What is meant is the semantics of the verb or the inherent temporal characteristics.

6 Children are cognitively unable to mark deictic past. They only make requests and statements about the Here-and-Now (Weist 1986).
Robison explains the primacy of aspect hypothesis as “aspect is primary in the sense not that morphemes that denote aspect in the target language are acquired first, but that target language verbal morphemes independent of their function in the target language, are first used by the learner to mark aspect” (p 316). However, this claim turned out to be too strong and Robison concludes: “Aspectual verbal morphology correlates with lexical aspect at least during some stage in the development of interlanguage (Robison 1990: 330). Andersen and Shirai (1994) also formulated a weaker hypothesis, “the relative defective tense hypothesis”, in which the idea of lexical aspect influence is preserved but is not opposed to grammatical viewpoint aspect and tense marking:

“first and second language learners will initially be influenced by the inherent semantic aspects of verbs or predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs” (p 133).

The lexical aspect hypothesis can generally be formulated in four separate claims (both for L1 and L2 acquisition, e.g. Andersen & Shirai 1996: 533):

1. Learners will initially restrict past or perfective marking to achievement and accomplishment verbs (those with an inherent endpoint) and later gradually extend the marking to activities and then states, with states being the last category to be marked consistently.
2. In languages with an imperfective marker, imperfective past appears much later than perfective past. It is initially restricted to states and activity verbs, then extended to accomplishments, and finally to achievements.
3. Progressive marking is initially restricted to activity verbs and then extended to accomplishments and achievements.
4. Progressive marking is not incorrectly overextended to states.

In order to give a concrete idea of what this means I give a graphically display in figure 4.1 of the developmental pattern of past tense morphology in English described by Andersen (1991: 318).

<table>
<thead>
<tr>
<th></th>
<th>achiev. ⇒</th>
<th>accompl. ⇒</th>
<th>activity ⇒</th>
<th>state</th>
</tr>
</thead>
<tbody>
<tr>
<td>[all verbs]</td>
<td>[punctual]</td>
<td>[telic]</td>
<td>[dynamic]</td>
<td>[durative]</td>
</tr>
<tr>
<td>invariant V</td>
<td>left</td>
<td>left</td>
<td>left</td>
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<td>wanted</td>
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</tbody>
</table>

Figure 4.1 The gradual development of past tense inflection in English L2
The process displayed in figure 4.1 shows a gradual development of semantic restrictions (the inherent lexical temporal features in brackets) until past morphology covers all inherent aspectual classes. Only at this last stage, when it is no longer bound to the specific inherent semantics of the predicate, can past morphology be put to its functional target-like use of marking past time reference.

The early studies investigating the aspect hypothesis were mainly concerned with untutored language learners but recent studies also include foreign (instructed) learners (see Bardovi-Harlig 1999, for a helpful overview). The precise empirical results will be described in section 4.2. At this point it is important to note that the observation of a close association between the inherent aspectual semantics of verbal predicates and verb morphology in the emergence and development of grammatical tense and aspect marking has been taken as an acquisition universal in first language acquisition, creolization and in both spontaneous and instructed second language acquisition.

(b) The discourse hypothesis
The second hypothesis in the form-to-function debate is the discourse hypothesis; the distribution of tense-aspect morphology is determined by narrative structure, in the literature often defined as “grounding”. This discourse hypothesis is derived from Hopper’s (1979) cross-linguistic work on aspectual markers in narrative discourse (Bardovi-Harlig 1992, 1994, 1995, Flashner 1989, Kumpf 1984):

“one typically finds an aspect marker specialized for foregrounding e.g. perfectivity and one for backgrounding e.g. imperfectivity” (Hopper 1979: 239),
or
“learners use emerging verbal morphology to distinguish foreground from background in narratives” (Bardovi-Harlig 1984: 43).

As we have seen in the previous section, other research in the field of linguistics also claim a close relation between the type of verbal marking and its discourse-pragmatic function (Dowty 1986, Dry 1981, Hopper & Thompson 1980): the perfective (bounded) versus imperfective (unbounded) distinction seems to be the natural outcome of the organization of narrative discourse in terms of foreground and background information (cf. chapter 2, and von Stutterheim 1991). On the basis of these findings, fo-to-fu studies in the second language area have adapted the discourse hypothesis as: “learners use emerging verbal morphology to distinguish foreground from background in narratives” (Bardovi-Harlig 1994: 43).

However, as Dry (1983) and Reinhart (1984) have already shown, the outcome of multi-disciplinary research on foreground (and background distinctions) suggests that it is a “cluster concept, commonly manifested as a collection of properties, not all of which need be present to identify any one passage as an instance of foregrounding” (Dry 1983: 441). The definition of what is foreground and what is background seems to allow a too rich interpretation. This has
stimulated von Stutterheim and Klein (1986) to propose the so-called "Quaestio-model" (see chapter 2, section 2.3) which allows a language-independent definition of what are the main and what are the side structures, what is and, this is important for empirical research, which is applicable for more then one type of discourse.\(^7\) In a narrative, the utterances of the main structure, the familiar “foreground”, answers the question “what happened next?” with unbounded states, habituals, and generics excluded. In contrast, in the main-structure of a description, specific temporal reference is normally excluded, and temporal location on the time axis leads to side structures. In comparison to narratives this is “exactly the reverse picture: the foregrounded states maintain the temporal frame; events are embedded in into these frames and can be regarded as background. In other words, the dominant temporal relation differs depending on the discourse type” (von Stutterheim 1991: 391).

In contrast to more morpheme-oriented studies in the discourse framework, von Stutterheim does not only look at possible functions of verbal inflections but investigates by what means the expression of temporal relations in discourse is achieved in early German learner language. Without going into much detail (the empirical findings will follow in the next section), we can conclude from her analyses that learners use the inherent temporal characteristics of utterances in total together with discourse principles (like PNO, and the topic, the focus and the global topic time condition, see chapter 2) in order to establish temporal coherence: “(...) specific text-types imply a particular temporal organization. These principles can be treated as knowledge shared by speaker and hearer across languages. Once the discourse type has been established, the hearer can draw inferences about the temporal relations between the reported “events” if no explicit information is given” (p 499). This means that, although von Stutterheim does not explicitly criticize the lexical aspect hypothesis, her explanation for the emergence of grammatical aspect coding is totally opposite from what is argued by advocates of the lexical aspect hypothesis: she claims that inherent temporal properties of verbs (in combination with their arguments) can function on their own as markers of the necessary boundedness/unboundedness distinction of events in discourse. Only in those cases that “an event must be understood in opposition to its inherent temporal properties”, the boundedness/unboundedness distinction has to be grammatically marked. This implies that von Stutterheim:

\(^7\) Klein and von Stutterheim warn against the idea that the Quaestio-model can solve all problems of analysis of text-structure: “Jede empirische Anwendung sieht sich mit dem Problem konfrontiert, dass die Kategorien den referentiellen Bewegung und die Topik-/Fokusunterscheidung nicht immer eindeutig auf das sprachliche Material bezogen werden können. Dies liegt daran, dass es keine eins-zu-eins-Entsprechung zwischen inhaltlicher Ebene, auf der die gennanten Kategorien definiert sind, und sprachlicher Ebene gibt.”
(a) sees the grammatical marking of inherent temporal properties of verbs as redundant,
(b) considers the first emergent grammatical markings as markings of viewpoint aspect.

Von Stutterheim sees the use of organization principles and inherent temporal properties not as only characteristic for learner languages: each language, also fully-fledged languages can be described with respect to the specific balance they have developed between the various devices. If a language has no explicit grammatical tense marking (like Moroccan-Arabic, Chinese or Yukatec Maya, see chapter 2) then von Stutterheim predicts that inherent semantic properties and discourse organization principles must carry a large weight. I think that, Bohnemeyer’s (1998) study of Yukatek-Maya (discussed in section 2.3.3) has ultimately shown that temporal information which has to be inferred in one language can be explicitly marked in the other and this has consequences for the way discourse cohesion is established.

To conclude
Bardovi-Harlig (1998) translates the aspect and discourse hypothesis within the fo-to-fu approach as follows into predictions concerning the distribution of tense/aspect morphology:

“The test cases for the two hypotheses are those in which telicity and grounding are not coincident:

- If foreground verbs regardless of aspectual class were marked in the simple past tense and background verbs were not, then this would constitute evidence for the discourse hypothesis.
- If telic verbs regardless of grounding were inflected for the simple past and atelic verbs were not then this would constitute support for the aspect hypothesis.” (p 479)

To decide between them it is necessary to analyze the opposite distribution (and quantify). Table 4.1 shows the prediction pattern of the opposite distribution: atelic verbs with a past/perf marking (yes*) in the foreground constitutes supporting evidence for the discourse hypothesis (a) and telic verbs in the background with a past perfect marking (yes**) constitutes evidence for the aspect hypothesis (b).

It is clear from table 4.1 that atelic verbs in the background with a past/perf marking (no***) would be counterevidence against both hypotheses. However, more recently, Andersen and Shirai (1996) and Bardovi-Harlig (1998) have argued how lexical aspect and discourse functions interact in the acquisition of tense and aspect morphology. The results of these more recent integrating fo-to-fu studies will be discussed in the next section. But I start by discussing the empirical findings of the other methodological approach that is more concept-oriented, the fu-to-fu studies.
Table 4.1 Predictions concerning the distribution of tense and aspect morphology

<table>
<thead>
<tr>
<th></th>
<th>telic verbs</th>
<th>atelic verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) evidence for discourse hypothesis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foreground</td>
<td>yes</td>
<td>yes*</td>
</tr>
<tr>
<td>background</td>
<td>no</td>
<td>no***</td>
</tr>
<tr>
<td><strong>b) evidence for aspect hypothesis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foreground</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>background</td>
<td>yes**</td>
<td>no***</td>
</tr>
</tbody>
</table>

4.2 Previous findings

In this section I sketch the development of temporal reference by L2-learners as it emerges from the literature on both fu-to-fo and on fo-to-fu studies. In section 4.2.1 an overview is given of the general results of fu-to-fo studies with a particular emphasis on the literature that has come out of the ESF project because of its multiple source and target languages and its rich description of the interaction between different types of linguistic means. Section 4.2.2 describes the results of more quantificational analyses of the lexical aspect and discourse hypothesis within the fo-to-fu analytical approach of the acquisition of verbal morphology in a second language. In section 4.2.3 theoretical implications and explanations of both methodological approaches and its results will be considered.

4.2.1 Empirical findings of function-to-form studies

I have already said before that the main general outcome of the temporality studies of the ESF project is that “among the various interacting ways to make temporal constellations clear, pragmatic devices precede lexical ones and these in turn precede grammatical ones” (Dietrich et al. 1995: 263). This development correlates with Dietrich et al.’s division of three types/stages of learner varieties in second language acquisition, namely: (a) the pre-basic varieties, (b) the basic-variety, (c) the post-basic varieties. The order of presentation of the empirical findings reflects this order of development.

(c) Pre-basic varieties

According to Dietrich et al., pre-basic varieties can be characterised by four properties: (1) they are lexical (bare nouns, verbs, adjectives, etc.), (2) there is no functional inflection, (3) complex constructions, if they appear at all, are put together according to pragmatic principles, such as “Focus last” (cf. Klein &
THE ACQUISITION OF TEMPORALITY

Perdue 1992) and the Principle of Natural Order and finally (4) they are heavily context-dependent. All there is for the expression of temporality are some temporal adverbials, notably calendric noun-phrases such as Sunday, morning, nineteen hundred and seventy and discourse principles like PNO. The utterance organisation is noun-based. Then, a critical point in the acquisition process is reached; the establishment of the basic variety which all learners analysed in the ESF studies did develop.

(d) The basic variety
The characteristics of the basic learner variety can be summarized as follows (see Dietrich et al.1995: 265):

1. Utterances typically consist of uninflected verbs, their arguments and, optionally, adverbials. There is no case marking, no morphological inflection and no subordination (for marking side-structures or simultaneity information).

2. Lexical verbs appear in a base form, and there is normally no copula. The form chosen as a base form may differ. Thus most learners of English use the bare stem (V0), but also V-ing is not uncommon. Learners of other languages may use the infinitive (German) or even a generalised inflected form (as often in Swedish). The Turkish learners of Dutch use the infinitive, the Moroccan learners of Dutch the base stem.

3. There is a steadily increasing repertoire of temporal adverbials. Minimally it includes:
   (a) TAP (Temporal Adverbials of Position, see chapter 2, section 2.2.2) of the calendric type;
   (b) anaphoric adverbials which allow learners to express the relation after (then, after) and also typically an adverbial which expresses the relation before;
   (c) some deictic adverbials like yesterday and last year;
   (d) a few TAQ (frequentative adverbials see chapter 2), notably always, often, one time, two times etc.;
   (e) a few TAD (Durative adverbials) normally as bare nouns, such as two hours, four days.
Adverbials such as again, still, yet, already (TAC, Temporal Adverbials of Contrast) do not belong to the standard repertoire of the basic variety.

4. There are some boundary markers, i.e., words (normally verb forms) which allow learners to mark the beginning and the end of some situation such as start, finish.

Subsequent analyses have modified some of the general results. One of the aims of this study is to provide further (dis)confirmation of the previous results. Concrete illustrations of the efficacy and versatility of this basic variety for
expressing temporal reference can be found in the ESF publications (e.g. Dietrich et al. 1995, Schumann 1987 and von Stutterheim 1986; see below). With respect to the order of acquisition of temporal adverbials, Dietrich et al. point out that the explicit lexical marking of external temporal relations (TAP) proceeds from topological (SIMULTANEITY) relations to AFTER relations which precede BEFORE relations. In other words, topological expressions such as now and today precede then, later and tomorrow which at their turn are marked before (x) days ago, before etc. Furthermore, they claim that deictic relationships (now, yesterday) are earlier marked then anaphorical relationships (later, before).

Although the basic variety does not allow for tense marking nor for aspect marking, the interaction of temporal adverbials and implicit discourse principles allows a temporal ordering of events in the following way (Dietrich et al. 1994:

(I) At the beginning of the discourse, a time-span—the initial topic time TT1—is fixed. This can be done in three ways:

(a) by explicit introduction on the learner’s part (e.g. (when) Italy; ‘when I was in Italy’). This is usually done by a TAP in utterance initial position;
(b) by explicit introduction of the interviewer’s part (what happened last Sunday or what will you do next Sunday?);
(c) by implicitly taking the “default topic time”- the time of utterance in this case nothing is explicitly marked;

(II) TT1 is not only the topic time of the first utterance. It also serves as a relatum to all subsequent topic times. If TT1 is given then Tr1+1—the topic time of the subsequent utterance—is either maintained, or changed. If it is maintained, nothing is marked. If it is different, there are two possibilities:

(a) the shifted topic time is explicitly marked by an adverbial in initial position;
(b) the new topic time follows from PNO (in narratives; in other words, TT1 + 1 is some interval more or less right-adjacent to TT1).

These two principles (I) and (II), provide the temporal scaffolding of a sequence of utterances—the time spans about which something is said (the global TT, see chapter 2, section 2.3). The time of situation of the events reported in the utterances at the local level are then given by a third principle:

---

* I have already shown in section 2.3.2 that narrative texts are temporally organized as a general answer to the “quaestio” “What happened next?” and there it only applies to utterances from the main structure. In other text types, such as descriptions or arguments, PNO does not apply nor does it hold for side structures in narratives, i.e. those sequences which give comments etc. For those cases, changes of TT must be marked by adverbials.
The relation of Tsit to TT in the basic variety is always AT i.e. 'more or less simultaneous'. TT can be contained in Tsit (imperfective viewpoint aspect), or Tsit can be contained in TT (perfective viewpoint aspect) or TT and Tsit are really simultaneous.

I want to emphasize here some communicative inefficiencies of the basic variety which I consider as possible triggering factors for a further development of linguistic (grammatical) means. The basic variety does not allow a grammatically marked perfective versus imperfective distinction. These distinctions can possibly be fulfilled by exploiting the different inherent temporal properties of semantic verb categories (see the work of von Stutterheim 1991, below). What is more difficult to fulfill without having grammatical viewpoint markings, is a dissociation between TT and Tsit (perfect and prospective viewpoint TT>Tsit and TT<Tsit). Furthermore, the pragmatic constraints described in the principles (I) and (II) imply that it must be explicitly marked if the TT in two subsequent utterances does not have to shift automatically. As long as the learner does not have the linguistic means, for example word order or subordination, to mark the difference between utterances which belong to the main structure (with a shifting TT) and utterances which belong to the side structure (with a TT which has to stay the same in subsequent utterances), misinterpretations are easily possible.

In order to give a concrete example of the functioning of the basic variety we will have a look at von Stutterheim’s analysis (1991) of spontaneous conversational data from two Turkish workers in Berlin who had been living in Germany for at least 7 years and had never participated in language training programmes. She gives the following inventory of temporal expressions of one speaker which can be seen as representative for the level of language proficiency under discussion.

Table 4.2 Inventory of temporal expressions in the basic variety (von Stutterheim 1991: 392)

<table>
<thead>
<tr>
<th>Calendaric expressions</th>
<th>Temporal relations</th>
<th>Aspectual categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>jetzt      now</td>
<td>(und) dann</td>
<td>ende</td>
</tr>
<tr>
<td>ein Tag   one day</td>
<td>nachher afterwards</td>
<td>fertig</td>
</tr>
<tr>
<td>früh      early</td>
<td>sofort at once</td>
<td>immer</td>
</tr>
<tr>
<td>abend     at noon</td>
<td>wieder again</td>
<td>noch</td>
</tr>
</tbody>
</table>

Besides calendric expressions for locating events, the learner has acquired a few adverbs for establishing time reference, for expressing the temporal relation following-in-time and for introducing and removing a temporal boundary ende/fertig and immer. Note that in von Stutterheim’s inventory, the contrastive
adverbials 'still' and 'again' are part of the basic variety lexical repertoire. This is in contrast to the results of Dietrich et al. (1995). Von Stutterheim’s analyses are based on the following research question: Given a repertoire of this type, what are the strategies a speaker can employ for establishing temporal reference in discourse? One suggestion is to locate every utterance in time by means of calendric and deictic expressions. Indeed one finds pieces of learner discourse which are awkwardly overloaded with explicit tadvs: 1976 Germany come, July 1972 Turkey married. This strategy is well suited for biographical information but for personal narratives. According to von Stutterheim, learners, who do not have grammatical tense and aspect marking, make use of the inherent temporal properties of the utterances, as in:

<table>
<thead>
<tr>
<th>Number</th>
<th>Utterance</th>
<th>Temporal Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>a. Junge Fahrrad Straße gehen</td>
<td>(bounded)</td>
</tr>
<tr>
<td></td>
<td>boy bicycle street go</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. viel Auto viel</td>
<td>(unbounded)</td>
</tr>
<tr>
<td></td>
<td>much car much</td>
<td></td>
</tr>
<tr>
<td></td>
<td>kommen Fahrrad Unfall</td>
<td>(bounded)</td>
</tr>
<tr>
<td></td>
<td>come bicycle accident</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Auto Schuld</td>
<td>(unbounded)</td>
</tr>
<tr>
<td></td>
<td>car fault</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Kollege Telefon anrufen</td>
<td>(bounded)</td>
</tr>
<tr>
<td></td>
<td>colleague phone call</td>
<td></td>
</tr>
</tbody>
</table>

This example shows, according to von Stutterheim, that the temporal ordering of events in the story above can be understood although the speaker does not use one single temporal expression. The hearer infers the temporal relations on the basis of the inherent temporal properties of the utterances. The crucial category for deciding whether the temporal reference is moved (on the basis of a shift of the topic time which functions as a reference point) or maintained is the temporal boundary. Temporally bounded events (in utterances a, c, e) provide a reference point and form part of the story line progressing in time. Background information is given in utterances (b) and (d). The states reported here are unbounded in time. The reviewed picture can be used for descriptive texts: “in contrast to the narrative pattern, the structure of descriptive texts can be characterised as a sequence of temporally unbounded states which imply maintenance of the temporal frame” (p 394). Von Stutterheim claims that all the speaker needs in terms of temporal reference for telling a simple story or giving a description are a few temporal adverbials for locating an event, and the temporal relations between the utterances being implied by both the overall discourse type and by the lexical semantics. However, von Stutterheim also reports some severe shortcomings of this basic variety:

- What to do when the lexical semantics of verbs are indeterminate with respect to an inherent temporal boundary (sleep, eat)?
What to do when an event should be understood in opposition to its inherent temporal properties— in other words, how can a temporal perspective be introduced?

These two communicative shortcomings are considered as one of the triggering factors in the acquisition process of temporal reference which push the learner to pass the basic variety: “For this purpose speakers develop grammatical markings on the verb, and this occurs at quite an early stage” (p. 394). Note that this is an important opposite claim of the lexical aspect hypotheses claims. As we saw above, the most important distinction to be made in general in discourse is the one between a temporally bounded versus a temporally unbounded event (cf. chapter 2, section 2.3.3). Von Stutterheim observed that learners who did pass the basic variety develop a non-targetlike marker of unboundedness (in descriptive texts) — namely a form of “to be + infinitive” such as ich bin Deutschland arbeiten. German does not mark aspect systematically on the verb so learners have created this form. In contrast, learners mark boundedness in narratives by using the participle as a perfective marker in opposition to the unmarked infinitive: bounded gefahren versus unbounded fahren.

Development beyond the basic variety; post-basic varieties

Klein and Perdue (1996) claim the basic variety to be a reflection of our basic human capacity. Therefore it seems plausible that the basic variety reflects also more or less universal properties of language. However in the case that (some) learners leave the basic variety, they have to acquire the language-specific linguistic means, like verbal inflection, case marking etc. Nevertheless, researchers from the ESF project observed some formal and functional similarities in the development of advanced learners (Dietrich et al.: 270-271). They can be summarized as follows:

(a) Initially there is co-existence of various morphological forms without appropriate functions. The learner would use, for example V0 and Ving without a clear and recognisable functional contrast — be it the one of TL or some learner—variety internal contrast. Dietrich et al. conclude: Form precedes function; formal variation precedes functional use.

(b) Irregular morphology precedes regular morphology. Learners tend to overlook the simple rules of the regular morphology and start with the complexities of irregular verb inflections, whatever the semantic category of the verb.

(c) Grammatical tense marking precedes grammatical aspect marking “all target languages of this study have grammatical tense marking only some of them have grammatical aspect marking, but all can mark aspect by various types of periphrastic constructions. In all cases, tense comes first”. Learners of English may have first perfect forms and, especially progressive forms at an early stage, but no early functional use of these forms is observed. Dietrich et al. point out that the order of acquisition of lexicalized temporal relations does not parallel
the order in which temporal relations come to be grammatically marked. The first temporal relation to be morphologically expressed is “BEFORE TU” (past tense).

Researchers within the ESF project did not explicitly test the lexical aspect and the discourse hypothesis so their results are in fact inconclusive with respect to these hypotheses. However, their claim that form precedes function because of the fact that the learner’s need to sound and to be like the social environment outweighs his concrete communicative needs, is in my view a clear dis-confirmation of both the lexical aspect and the discourse hypothesis. They did not find any clear lexical aspect or discourse functions in the early allomorphic verbal variation. The second claim that irregular morphology precedes regular morphology is explained by the fact that “irregular verbs are typically frequent and the morphological differences are perceptually salient, compared to a regular ending such as -ed” (p 271). This means that the more frequent and more salient irregular verb forms are acquired before the morphological formation rules for “creating” the regular forms. Dietrich et al. emphasize that this happens irrespective of the semantic lexical aspect category of the verb. I believe that this claim totally contradicts the idea behind the lexical aspect hypothesis: Dependent of the semantic lexical aspect type of verbs, learners use individual morphemes to mark (again) the lexical aspect category of the verb. It is clear that the last result, tense comes first, is clear counter-evidence of the classic grammatical aspect before tense hypothesis (Bickerton 1982, Weist 1986). Most studies have tested these three claims individually. One of the aims of the empirical analyses of the present study is to test these three hypotheses in an integrative mode.

In general, all the ESF studies conclude that the acquisitional process observed is not so much characterised by rule learning such as “add –ed to the stem” but by picking up individual items of the input and then slowly generalising over these items: “Second language acquisition is inductive and heavily input oriented” (p 271). Several other attempts have been made to describe the structure of the verbal morphology acquisition process within the field of the acquisition of temporality. Especially in the form-to-function framework of language acquisition, the order of emergence of verbal morphemes has received much attention, as we will see in the next section.

4.2.2 Empirical findings of form-to-function studies

Without attributing clear semantic or functional values to early morphosyntactic markings, the following developmental trend of verbal morphology is found in the literature (see Housen 1994, for a helpful review) about the second language acquisition of temporal reference in general (including the concept-oriented studies). At the beginning stages there are no (productive) verbs. In the earliest stages of acquisition, utterances are organised around noun-based elements. The
noun-verb distinction is not acquired yet. Then, in a second stage, verbs start to appear in a basic form: normally the infinitive or the bare stem. This undifferentiated base form is used for all semantic and functional contexts and only conveys the lexical meaning of the verb. As we have seen above learners seem to exploit the inherent temporal properties of verbs to the extent that these are the organizers of temporal coherence in discourse. The first language may affect the selection of the base form. For instance, the Moroccan-Arabic learners of Dutch in the ESF project showed a distinct preference for the bare stem (e.g. *werk*) whereas their Turkish counterparts preferred the longer infinitive form (e.g. *werken*). Housen (1993, 1994) reports that a English-speaking learner of Dutch also chooses the Dutch infinitive as the base form. In the third stage, there is an emergence of allomorphic variations of the base form but without functional contrasts. Noyau (1995) reports on nine different forms of the verb dormir (in Dietrich et al.: 171, see also chapter 8 of the present study): [dorm], [edorm], [edormi], [ladorm], [ladormi], [lidorm], [lidormi]. The fact that these formal variants are randomly distributed across different functional contexts supports the hypothesis that form precedes function in the acquisition of verb morphology as Dietrich et al. conclude (see above). Housen (1993) describes a two-fold selection of the process of allomorphic diversification:

(a) Some verb morphemes tend to appear earlier than others, as I have already mentioned by the form (morpheme)-only studies by Dulay and Burt (1974). In general, single inflected verb variants emerge before compound “AUX + verb” combinations such as *be + V(ing), have + V(ed/en), going/gonna + (to) + V, will + V*. Deviations from this trend include the Italian and Spanish learners of German in the ESF, HPD (Klein & Dittmar 1979), and the ZISA project (Clahsen, Meisel & Pienemann 1983) and the Spanish-speaking learners of French in the ESF project and the English-speaking learner of Dutch in Housen (1993), all of whom first develop a formal contrast between invariant verb versus “AUX + verb”.

(b) When a particular verb morpheme enters the learner’s system, it does not appear with all verbs or all the possible contexts simultaneously; there is a non-functional distributional bias towards certain selected verbs and/or contexts only. This is a clear reference to the discourse and aspect hypothesis wherein the emerging tense and aspect markings are considered to have only a “grounding” function or to be only (redundant) markers of the semantics of the verb without having a grammatical tense or grammatical aspect function.

In the last stage, almost all learners develop some morphological variation but not all proceed to develop functional verb morphology. Housen (1995) describes this slow, gradual and continuous process (cf. Dietrich et al.: 270) as “the gradual redressing of the initial restricted learner variety distribution towards the target language distribution involves a gradual functional specification as verb variants
which were formerly in complementary distribution are assigned distinct meanings and functions. These need not necessarily be the meanings or the full range of meanings and functions which the forms have in the target language."(p 145)

As far as concerns the pure formal side, several researchers (of both analytic approaches) give explanations for a particular order of emergence which usually point to the input properties of the respective morphemes, i.e. their semantic transparency, morphological complexity, functional load/redundancy and frequency of occurrence and perceptual saliency in the input (see below). For the form-to-function side, I first review the empirical results according to one of the following two hypotheses investigated in the studies: (a) the lexical aspect hypothesis and (b) the discourse hypothesis. Finally in section 4.2.3, in order to create an integrating picture I also add the results of the third hypothesis concerning the distribution of early tense and aspect markings: (c) the grammatical aspect before tense hypothesis.

(a) The lexical aspect hypothesis
Abstracting away from the details, the findings of the body of research concerning the lexical aspect hypothesis can be summarized as follows (see also Housen 1994: 153):

- Verb morphemes which in the target language mark pastness, anteriority, perfect and/or perfectivity first appear with inherently punctual and/or telic verbs (i.e. Vendler's achievements and accomplishments; Klein's 2-state verbs see chapter 2). Later they gradually spread to durative and atelic verb events (Klein's 0- and 1-state verbs).

- Verb morphemes which in the target language mark imperfectivity (e.g. progressivity) first appear with inherently durative and/or stative verbs (i.e. states and activities, Klein's 0- and 1-state verbs). Later they gradually spread to dynamic and punctual verbs (2-state verbs).

The strongest support for the lexical aspect hypothesis has come from studies in which both the target language and the learner's native language has grammatical aspect (e.g. Spanish and English):

“The English data generally show that (1) past morphology is strongly associated with achievement or accomplishment verbs (Flashner 1983, Robison 1990, Rothstein 1985) and (2) -ing is strongly associated with durative (i.e., state activity accomplishment) verbs, with activity verbs receiving more -ing marking (Cushing 1987, Kumpf 1982, Röthstein 1985).” (Andersen & Shirai 1996: 543)

I want to emphasize here that a much weaker correlation between inherent temporal properties and early verb morphology is observed in studies in which at least one of the members does not have grammatical aspect. A relevant study is Housen's (1995) study of the acquisition of L2-Dutch by an English speaker.
Furthermore, I noticed that a number of these studies use the term “perfective” to refer to the use of (English) simple past marking on telic verbs and “imperfective” to refer to the use of -ing on atelic verbs. By treating perfective and simple past marking on a pair in contrast to the pair imperfective and progressive -ing marking, different temporal and aspectual distinctions are mixed up. First of all, I believe that the equalization of simple past marking as a perfective aspect marking can only be made in clear cases as in English which has a contrastive grammaticalized imperfective marking -ing available. For Dutch and French, for example, it is impossible to follow a one form one (aspectual) function analysis for the past tense forms. Dutch, for example, does not systematically encode grammatical aspect in the past (although this does not mean that grammatical viewpoint marking in whatever periphrastic way does not play an essential role, see chapter 3, section 3.2.1).

French has a perfective versus imperfective grammatical aspect contrast in the past, but here the analytical problem is that in French just like Dutch the present perfect (the past perfective marker in French, see section 3.2.2) can both have a post-state present tense and a post-time past tense reading as I have explained in chapter 3 (section 3.2). Furthermore, by treating the simple past marking as a (past) perfective marking, a lot of analysts assume in fact that learners establish a double marking; one of past and one of perfective. In contrast, these same analysts seem to treat the -ing form (independent of tense marking) as imperfective marking assuming that learners are not establishing a tense relation. It is not clear, at least to me, if forms like he was laughing, he is laughing or simple he laughing are all tokens of the same imperfective type marking.

The results regarding the use of -ing are important because they are different from what is found in L1-acquisition in that progressive markers are sometimes overextended to stative verbs in some of the L2-studies. Andersen (1996) suggests that this is a case of transfer from the source language. Flashner (1982) in her study on Russian-speaking learners of English attributes her subject’s use of past morphology for “perfective” contexts and the base form for ‘imperfective’ contexts to transfer from Russian. In still another study, Nixon’s (1986) Chinese subject expressed “perfective aspect” mostly by using “have + V (base form)” instead of using past morphology. I think it is essential to distinguish tense and aspect markings first, not by looking at their target language form but looking at their temporal or aspectual function: Do allomorphic variations of the base form establish a relation between the time talked about TT and the time of utterance TU (tense) or between the time talked about TT and the time of situation Tsit (aspect)?

The empirical findings are never so homogeneous nor absolute as in the idealized picture. This is probably due to differences in methodology (e.g. use of spontaneous data vs. experimental and oral vs. written data) and in the operationalization of various aspectual classes. Note, that the picture above does not show if the Imperfect and the Preterit markings emerge or do not emerge at the same stage of acquisition.

Nowadays, the investigation of the influence of inherent temporal properties of verbs on the emergence of verbal morphology also includes tutored foreign language learners in their own country (for French, Bardovi-Harlig & Bergström 1996, for Spanish Hásbun 1995, Ramsay 1990) as well as instructed learners in host environments (Bardovi-Harlig & Reynolds 1995, Shirai 1995, Shirai & Kurono 1998) and bilingual environments (Collins 1997). Bardovi-Harlig (1999) divides the aspect studies in two camps of SLA studies. The first ones are those who address the question “Where do various morphemes occur?”, taking the sum of all the predicates that occur with a given morpheme across aspectual categories (Salaberry 1997, Shirai 1995, Shirai & Kurono 1998). Note that these studies risk finding that there is a higher percentage of use of past with achievements because of the fact they that are only looking at narratives wherein more tokens of achievement are used. In contrast other studies address the question “How are each of the lexicalaspectual categories marked by the learners” (see Bardovi-Harlig 1998, Bardovi-Harlig & Bergström 1996, Bergström 1995, 1997, Housen 1994, Kihstedt 1998, Robison 1990). Andersen (1996) claims that the main effect of the influence of aspectual class is that, when interlanguage verbal morphology emerges, it is in complementary distribution, unlike in the target languages investigated in the same studies where contrast is possible. The predictions are clear (the researchers only have to quantify): (a) perfective with telic (2-state) verbs, (b) imperfective with states (0-state verbs), (c) progressive with activities (1-state verbs). As far as concerns the pair perfective with past tense marking, it is clear from the literature that this is the most attested stage in the distribution of verbal morphology. This must be due partly, as Bardovi-Harlig 1998 reports, because of: “the dominance of achievements in the narrative data and partly because the perfective past is the first past

---

Table 4.3 Spread of Preterit and Imperfect from opposite “corners”

<table>
<thead>
<tr>
<th></th>
<th>spread of Imperf.</th>
<th>spread of Preterit</th>
<th>integrated picture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>from stative corner</td>
<td>from punctual corner</td>
<td></td>
</tr>
<tr>
<td>stat act acc</td>
<td>stat act acc acc</td>
<td>stat act acc acc</td>
<td>stat act acc acc</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>I</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>I</td>
<td>I</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

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morpheme acquired and thus, easily observed in the interlanguage of learners who have reached the morphological stage of expression” (p 363). She found a clear diffusion of past-tense use, starting from the ‘punctual corner’ by achievements to accomplishments to activities in her data from oral narratives. She also says that the most convincing support for the aspect hypothesis comes from Robison’s (1995) study of 26 learners of English attending a Puerto Rican University. Whereas many studies have analyzed the distribution of tense-aspect morphology exclusively in past-time contexts, Robison provided evidence for the distribution of tense-aspect morphology across temporal contexts, “including cases in which learners have used the past with achievements that denote a present or future event” (p 360).

With respect to the spread of the imperfect Andersen (1991) reports that the order of emergence of imperfect after preterite past is well attested. Studies on the acquisition of French (Harley & Swain 1978, Kihlstedt 1998) have shown that the French “passé composé” emerges before the “imparfait”. Studies also show that the target-language imperfect form is not the first marker of imperfectivity but for example the base form is used in contrast to a marked perfective form (Kaplan 1998). Giacalone-Ramat (1995, 1997) reports that in Italian L2, 635 of all progressive tokens occur with activities and an additional 22% appear with mental states such as credere ‘believe’ and pensare ‘think’. Progressive seems to spread slowly to accomplishments (4%). In the discussions about the spread of the progressive makings, often the discussion about the emergence of tense marking appears. This must be due to the fact that most target languages investigated dispose of a “progressive-participie” plus a form of be which carries tense; the bare progressive participle (the -ing form in English for example) emerges first playing, followed by the present progressive I am playing, and then the past progressive I was playing (Bardovi-Harlig & Bergström 1996, Bardovi-Harlig & Reynolds 1995). In this way, tense becomes increasingly target-like with progressive even as the association of progressive and activities (1-state verbs) is maintained or strengthened (Robison 1995).

A potential counterexample of the lexical aspect hypothesis is found in data from a single Japanese learner of English who showed almost no verbal morphology except on states (0-state verbs), consisting largely of be in the background (Kumpf 1984). Advocates of the aspect hypothesis, however have reanalysed these data and concluded that Kumpf’s learner -like the learners in Schumann’s (1987) study who also showed no correlation of inherent aspect and verbal morphology- “may have been at too low a level to show productive use of morphology” (Andersen 1996: 536). This could also be one of the reasons why the researchers from the ESF project did not test the lexical aspect hypothesis. Bardovi-Harlig (1999) criticizes Dietrich et al. (1995) on this matter, as follows:

“the largest concept-oriented study on temporality (with the greatest potential for contributing to the discussion because of its longitudinal and cross-linguistic design simply reports: “in relation to Andersen’s aspect
hypothesis our results are inconclusive”. Unfortunately, the analysis of lexical aspect is not part of the published analysis and readers have no evidence against which to weight this conclusion.” (p 364)

Bardovi-Harlig’s criticism needs to be rectified for two reasons: (1) Noyau in her analysis of the development of verbal morphology includes a testing of the lexical aspect hypothesis (called Hi for inherent aspect, in Dietrich et al.: 174) and (2) it is not true that Dietrich et al. “simply” report that their results are inconclusive in relation to the aspect hypothesis, they also give the following arguments for not doing this:

“The problem here is that the aspect hypothesis only concerns TL-like verbal morphology (“form-to-function”), which hides both the learners’ truly idiosyncratic markings of related oppositions (Abdelmalek) and related markings of different oppositions (Berta marks mood distinctions). Furthermore, the aspect hypothesis has to be weighted against competing strategies for mimicking the input, such as frequency (see also Meisel 1987), or the perception of irregular verbal morphology (see also Sato 1990), whatever the verb class.” (p 271)

(b) the discourse hypothesis
With respect to the other competing hypothesis within the fo-to-fu analytical approach, the discourse hypothesis, Flashner (1989) found that three Russian learners of English distinguished foreground from background in oral narratives by marking the foreground predominantly in simple past whereas the background verbs occurred predominantly in base forms. Housen (1994) also reports that in his English-speaking learner the narrative structure was reflected in her tense-aspect morphology: present perfect appeared in the foreground whereas simple present and non-finite verbs occurred in the background. In a study of seven untutored Arabic and Berber-speaking learners of French, Véronique (1987) found that the distribution of verbal morphology across background and foreground differed by level. Véronique found that emergent verbal morphology “V+e” (i.e. emergent use of “passé composé” with or without the auxiliary) tended to cluster in the foreground, with base forms in the background.

Bardovi-Harlig (1995) grouped 37 learners of English in the classroom by overall rate of appropriate use of past tense in past-time narratives resulting in eight groups. In both the oral and written narratives (elicited retells of an 8-minute segment of Modern Times) the simple past emerged first in the foreground and rates of simple past use remain higher in the foreground than in the background at all levels (when be was deleted from the sample, the pattern was even more robust). The use of past is exceeded by the use of base forms even in the foreground at the lowest levels, but in the intermediate level simple past becomes the dominant foregrounded verb form used. In the foreground, simple past and base are the chief verb forms, whereas in the background there are, in addition progressive marked as well as present forms. Bardovi-Harlig concludes: “The interlanguage
pattern of tense-aspect marking mirrors the functional simplicity of the foreground and the multiple functions of the background" (1999: 367). In the next section I want to give a more complete picture of all results I found in the literature concerning emergent tense and aspect markings by adding results of a third hypothesis: the grammatical aspect before tense hypothesis.

4.2.3 To conclude: an integrating picture

This section compares the results of the lexical aspect, discourse hypothesis and the grammatical aspect before tense hypothesis. First of all I want to give the reader an idea of how researchers from the form-function approach do test the two apparently opposing lexical aspect and discourse hypotheses. Therefore I give below a concrete example of one of Bardovi-Harlig’s (1998) analyses of learners’ film retellings of Modern Times (see 4.2.2). As she says, the predictions of the discourse hypothesis and the aspect hypothesis do not always coincide. Any event that is reported in a sequence can be part of the foreground. Thus, atelic verbs can appear in the foreground as in example 4.2 (from a Japanese learner of English), utterance (f) and chased her. Consequently telic verbs may also be found in the background as in utterance (d) with the verbs saw and stole. Note that Bardovi-Harlig argues here that saw and stole were simultaneous events in the film and that they are reported out of sequence and so in the background of the narrative.

(4.2)  Foreground                          Background

a. then, she stole the bread [achieve]

b. and the-she ran away [accomplish]

c. and she ... hit the Chaplin... [achieve]

d. ...

... and uh, different woman saw [achieve] the, she stole the
bread...[achieve]

e. and cried [achieve]

f. and chased her [activity]

g. and the employer caught her [achieve]

h. and, but Chaplin said [achieve]

i. “I did it, you know ... I stole the bread”

These examples are exactly the test cases for the two apparently competing hypotheses because telicity and grounding are not coincident; atelic verbs are used in the foreground and telic verbs are used in the background. As we can see in the example above irrespective of the lexical aspect type and grounding all these verbs get a past tense inflection in the discourse of this probably advanced learner. Bardovi-Harlig in her 1998 study finds both support for the lexical aspect and the discourse hypothesis (dependent on the acquisition stage of the learner) and concludes that:
“Although the basic semantic features of predicates attract verbal
morphology with the same features, in actual production, these inflected
predicates are pressed into the service of communication and may take on
features appropriate to the narrative structure, thus going beyond the most
basic predicate-level pairing of verbal and morphological features.” (p 501)

Bardovi-Harlig suggests (not so surprisingly) that lexical aspect and narrative
structure both shape the distribution of tense-aspect morphology in second
language acquisition. And nothing can be more true (and also less surprisingly)
than her general conclusion that:

“A point of departure for future research is the understanding that
interlanguage temporal systems are shaped by both the semantics of lexical
aspect and the pragmatics of discourse.” (p 501)

Finally, note that Bardovi-Harlig has presumably (according to her decision to
select only correct past-time marking) thrown away all the PRESENT perfects.
This means that a grammatical aspect or tense function (like an aspectual post-
state or a past tense marking, cf. chapter 2) of a present perfect-like marking such
as (AUX+) past participle in these film retellings is excluded (if one can hear the
difference between the past participle stolen and stole at all in the oral data). This is
exactly the reason that I want to put in again the grammatical aspect before tense
hypothesis. Why should one want to exclude the post-state or past tense function
of a perfect tense-like marking beforehand?

The grammatical aspect for tense hypothesis can be paraphrased as follows:
“Are the first systematic ‘formal deviations’ from the basic form, markers of
viewpoint aspect or markers of tense”. Because of the abundant amount of
studies in the literature which are testing the lexical aspect and the discourse
hypothesis, it seems that the development of grammatical aspect and tense
marking is overshadowed by the lexical aspect and discourse notions. First of all,
I have to make clear that it is necessary to make a distinction between the lexical
aspect and the discourse hypothesis at one side and the grammatical aspect before
tense hypothesis at the other side. The first two hypotheses do part from the
assumption that the first emerging tense and aspect markings do not have a tense
or aspect function but a “grounding” or a (redundant) lexical aspect marking
function; an acquisition stage which for researchers within the fo-to-fu framework
precedes the target tense and aspect functional distribution stage (see above).
However, one should not exclude the possibility that the first emergent tense and
aspect markings do have a grammatical viewpoint aspect or tense function indeed.
I want to emphasize here that this needs not to be the target language tense and/or
aspect function. Of course, a particular category of verbs will attract a particular
type of viewpoint marking or tense marking earlier than others; in the real world
more often vases have broken and people have stolen then that vases are breaking
or people are stealing. However, the allomorphic forms which are deviant from the
base form can also productively be put in to contrast aspectual viewpoint or tense
functions depending on the communicative context in which they are needed. The grammatical aspect before tense hypothesis starts from the assumption that deviate forms (a) are used in different aspectual contexts (different relations of TT to Tsit) before they are used in temporal (different relations of TT to TU) and that these forms (b) are productive in the sense that they are not unanalysed chunks (for example learners only use one form “broke”or “stole” as a base form) put composed from a root + a tense or aspect morpheme.

In the fo-to-fu studies I only found side-remarks with respect to the grammatical aspect before tense hypothesis. They all seem to disconfirm the grammatical aspect before tense hypothesis claiming that tense marking is developed first (after a lexical aspect marking or grounding stage). Robison (1995), for example, observed that, even though the correlation of morphology with lexical aspectual categories strengthens with level of proficiency, tense also develops:

“The correlation of inflection with tense, PAST with anterior reference and -s with present, increases with proficiency level. While lexical aspect dominates inflectional choices at the lowest proficiency level, the influence of tense becomes at least comparable to that of lexical aspect in the highest proficiency group.” (p 365)

Housen (1993, 1994) also investigated the acquisition of tense. After one course in Dutch and four weeks in Holland, the English-speaking learner studied by Housen used past-tense forms predominantly in past-time contexts, but she used present-tense forms almost equally in present and past-time contexts (this means concretely that for past time reference there were two contrastive forms, “AUX + V and the present base form). One year later, the learner largely restricted her use of present tense forms to present-time contexts.

As I have already said above, in the fu-to-fo studies of the ESF project, Dietrich et al. claim a tense-before-aspect marking: “in all case tense comes first”. This is in contrast to von Stutterheim’s fu-t-fo findings. She claims that:

“The first grammatical markings on the verb have an essential aspectual character: the marked imperfective (AUX + infinitive or ‘dat ist’ + infinitive for Turkish learners of German) and an unmarked infinitive. A second opposition is the one between a perfective past participle and an unmarked infinitive.” (von Stutterheim 1986: 201)

In the following section we will look at the theoretical explanations of these findings.
4.3 Theoretical explanations

Research of the acquisition of temporality in a second language is a good testing ground for theories about second language acquisition in general: for each utterance, the speaker has to embed the event or state temporally to another time span, be this deictically given, given in context, or calendrically given. Secondly, temporal reference marking is often associated with utterance structure; depending on finite or non-finite verbs the utterance structure is differently organised (cf. Parodi 2000, Giuliano 2000). So the acquisition of verb morphology is a deciding factor in the general acquisition process of a second language. Here, I want to concentrate now on the theoretical explanations which have been proposed for the empirical findings. In trying to account for the acquisition of temporality, the first question which comes up is “what is the cognitive and linguistic make-up of the learner?”. Does s/he take his information from his first language, his second language or does he use general learning strategies? Is it an innate capacity of our human brain to acquire a second language? Meisel (1987) says very hopefully:

“Longitudinal studies of L2 development should therefore be able to reveal cognitive and communicative constraints on the use of morphological and syntactic devices to code the intended message.” (p 206)

In the following two sections I discuss theories and principles which are used by researchers within the fu-to-fo (4.3.1) and the fo-to-fu (4.3.2) analytical framework in order to explain their empirical findings.

4.3.1 Principles behind the fu-to-fo findings

In the conclusion of their article entitled “Couldn’t natural languages be much simpler” Klein and Perdue (1996) make their theoretical statement very clear about where the learner gets his/her information from:

“We have seen that adult language learners who, unlike children, do not end up by faithfully reproducing all the idiosyncrasies and oddities presented to them by their social environment but organise their utterances and texts according to elementary principles of their innate human language capacity regularly develop a type of language which is perfectly well-structured, highly efficient - and very simple. It has definable shortcomings though and we assume that the attempts which the human language capacity makes to overcome these are largely responsible for all of this fabric which makes natural languages so opaque and so complex.” (p 35)

Their claim is that the basic variety is the natural outcome of semantic, pragmatic and utterance organisational principles which is established in cases of “communicative stress”: it mainly relies on implicit and lexical reference and offers quick solutions to learners’ most urgent communicative problems (see also language
attrition research; Starren 1997). The basic variety is seen as the initial and optimal level of fossilization and the acquisition of linguistic means must be triggered by communicative shortcomings which are, by the way, very difficult to grasp. Their last remark in the 1996 article is “that here might be a reason to have case morphology; but this does not justify ten different paradigms of noun inflection”. In analogy I want to add here that there might be a communicative explanation why in some languages at each utterance, tense (TT to TU) must be marked following the global TT condition (see 2.3.1) but this does not justify the large amount of verbal tense and aspect inflections. As Trévise (1988) once said: “tense and aspect morphology is developed for the sake of grammarians and language teachers”. This argumentation explains that the triggering questions behind the ESF studies always have been of the type: “Why do learners grammaticalize at all? What mechanisms or factors drive the learner to acquire a particular temporal form-function mapping? What factors block -sometimes permanently- the transition to a following stage of acquisition?”

The explanations of results within this function-oriented research paradigm are formulated in terms of language-internal communicative shortcomings (and to a lesser extent also the adaptation to a sociolinguistic environment or mimicking input). The problem of this type of explanations is that system-internal communicative needs and shortcomings are tremendously difficult to grapple. For example are temporal adverbials communicatively inefficient for creating a coherent discourse? Or in other words, can lexical means compensate for grammatical means? There are several reasons why it is often difficult to invoke communicative need as an explanation for the (order of) development of (grammatical) means. In this respect I want to mention here three concrete examples of findings of the ESF project (see 4.2.1) which cannot be explained in terms of communicative need:

First, the view that linguistic means are developed to fulfill certain communicative needs is not consistent with the fact that contrastive temporal adverbials *still, always, again* which to a certain degree can fulfill the communicative need for the essential aspectual boundary marking are acquired very late. Secondly, following Dietrich et al. the order of acquisition for anaphoric lexical marking of temporal relations goes from *after* to *before*. This is not logic seen from a communicative point of view because the temporal relation in a temporal serialization of events is by default *after* and only deviations from the default one have to be marked explicitly. This requires anaphoric *before* expressions, which allow the speaker to break the chronological chain imposed by PNO. Thirdly, the finding that tense is acquired before grammatical aspect is difficult to explain from a view that development of linguistic means is triggered by communicative shortcomings. As I have already explained in chapter 2, tense marking can straightforwardly and even more accurate be fulfilled by deictic adverbials. Furthermore, if we assume the establishment of coherence in discourse as the ultimate task of a learner than it must be clear from section 2.3 that tense marking of each verb in a related sequence of utterances is redundant following the global TT-condition
(see section 2.3.1). More logic is that learners start by marking lexically or grammatically what is not already marked by default, such as BEFORE-relations in narratives, imperfectivity in narratives, perfectivity in descriptions, a dissociated TT-TS(t) temporal relationship etc.

4.3.2 Principles behind the fo-to-fu findings

The explanations in the studies working within a form-oriented framework are clearly more concerned about pace-setting factors, what form after what, and not so much about driving or blocking factors of the development. Research questions behind form-oriented studies are formulated in terms of acquisition orders: “What determines the course of acquisition, i.e. the order of various developmental stages?”

With respect to the discourse hypothesis, the principle which guides the learner to find his way through a set of (often not very salient) target language morphemes is that s/he looks first for distinguishing morphemes in order to distinguish foreground from background in narratives. I see two problems for taking a grounding principle as the causal factor of a particular acquisition order of morphemes. First of all, almost all the studies testing the discourse hypothesis have only used narrative data because “a grounding analysis can only be carried out on narrative texts, or narrative portions of texts”(Bardovi-Harlig 1999: 367). I have already explained in chapter 2 (section 2.3) that no linguistic marking at the local utterance level can be seen independent of its discourse function at a global discourse level. The influence of discourse type on tense-aspect distribution is essential. This refers directly to my second problem with respect to a grounding analysis of tense-aspect morphemes; to divide utterances in a sequence in foregrounding and backgrounding material seems to me in many cases a too much subjective interpretation of the researcher. The quaestio-model proposed by Klein and von Stutterheim (1987) propose a more narrow analytical framework in order to divide a sequence of related utterances in a main structure (giving an answer to the general question) and a side structure. This model can serve to further investigate in a language-neutral way the interaction between local linguistic means and discourse-type.

Regarding explanations for the lexical aspect hypothesis, Andersen (1986, 1988, 1993) has suggested that there is a distributional bias in the linguistic input addressed to language acquirers, which they call the input perspective. The fact that there is a distributional bias in native speech has been observed by a number of linguists. Bybee (1985), for example, observes:

“Inherent aspectual meaning determines the frequency with which different lexical items are paired with different aspectual inflections. This is evident in early child language where perfective inflection is first used on telic punctual verbs while progressive, or imperfective inflection is first used only on activity verbs (Bloom et al. 1980). This skewing is also reflected in frequency counts of adult language.” (p 77)
Most studies appear to assume that the descriptive findings that conform the lexical aspect hypothesis are due to the nature of acquisition process itself. That is, learners are predisposed to discover explicit encodings for an event, process, or state distinction or some subset of it. Learners thus reinterpret morphological forms in the input in terms of these categories. Andersen and Shirai (1994) have tried to show that native speakers exhibit the same tendencies: Native speakers will exhibit the same distributions of morphological markings on selected verbs (according to their inherent semantics) that are found in learners. They (1994) further argue that this distributional bias in both native and learner language results from adherence to three cognitive operating principles and by access to prototypicality. The Relevance Principle claims that learners will use morphology that is relevant to the verb closest to the verb, Bybee (1985), Slobin (1985) and they will acquire it earliest Andersen and Shirai (1994). This principle guides learners to find morphological markings that are relevant to the inherent aspectual meaning of the verb. Secondly, the Congruence Principle guides the learner to select from the range of acoustically perceptual morphemes in the input the morphemes whose meaning is most congruent with the inherent aspectual meaning of a given verb. To account for exactly which meaning is selected, access to markedness or prototypicality in linguistic form-meaning mappings is invoked:

"Tense and aspect markers are prototype categories and learners (both L1 and L2) initially discover the least marked member of each category (one unitary achievement or accomplishment for past or perfective) and only later and gradually add progressively more marked members to their pool of "past" and "perfective" marked verbs." (Andersen & Shirai 1996: 560)

Finally, the One-to-One principle leads the learner to assume that each newly identified morpheme will have only one meaning, function and distribution. They further argue that adherence to all of these cognitive principles, whether by native speakers or by learners, is ultimately inspired by communicative discourse-pragmatic motivations to optimally structure information in ongoing discourse along the lines suggested by Hopper (1979) and Givón (1979, 1982).

With respect to the first two principles, I see the following problems. First of all, consider the main assumption of the Relevance Principle that has been tested by Bybee (1985) in 50 languages over the world:

"semantic elements that are highly relevant to one another are likely to be packaged together and expressed lexically, or will be the most common inflectional or derivational categories." (p 14)

Bybee’s definition of what is a “relevant” inflectional category for a verb stem, is the following one:

“Among inflectional categories we can distinguish degrees of relevance of the concept expressed inflectionally to the concept expressed by a radical
element, in this case a verb stem. A category is relevant to the verb to the extent that the meaning of the category directly affects or modifies the lexical content of the verb stem. For instance, let us compare aspect to person agreement with the subject. Aspect represents different ways of viewing the internal temporal constituency of an action or state (Comrie 1976: 3). Since a verb stem describes an action or state, aspect is highly relevant for verbs. Subject agreement is somewhat less relevant to the verb, since it refers to an argument of the verb and not to the action or state described by the verb itself.” (p 21)

So the more the morpheme affects or modifies the lexical content of the verb stem, the closer it is put to the verb stem. Then Bybee continues to define what is the relevance of inflectional aspect morphemes and she refers to Hopper who, without doubt, gives the inflectional aspect morpheme a discourse function:

“Hopper (1977) has argued that inflectional aspect serves to indicate how the action or state described by the verb should be viewed in the context of the whole discourse (...) This discourse use of aspect leaves the basic meaning of the verb unaffected and only changes its relation to the discourse unit.” (Bybee 1985: 21)

In my view, Bybee suggests here, that what makes inflectional aspect so relevant to the verb is not a lexical aspect function but a discourse function. I believe that the Relevance Principle is put in as a cognitive principle for supporting the lexical aspect hypothesis for the wrong reasons and could be better be used as support for the discourse hypothesis. In an indirect way, Bybee’s Relevance Principle supports also the grammatical aspect before tense hypothesis. If one assumes that learners use morphemes closest to the verb which are most relevant to the verb and relevance is explained in terms of the way morphemes change the relation of the basic verb meaning to the discourse unit then it follows that grammatical viewpoint aspect marking which affects the aspectual viewpoint (the relation TT to Tsit) perspective on a situation/event dependent of the discourse context, is the most relevant marking to a verb and acquired earliest. And not the extra redundant lexical aspect marking. In fact, the development of grammatical viewpoint markings seems to me very relevant in discourse if (a) the lexical semantics of verbs are indeterminate with respect to an inherent temporal boundary (sleep, eat) and (b) an event should be understood in opposition to its inherent temporal properties, for example durative walk must have a boundary via a perfective marker. Furthermore, Bybee sees tense as less relevant to the verb then aspect: “A tense distinction does not affect the meaning of the verb, since the situation referred to by the verb remains the same whether it said to occur in the past or present”. In her 50-language sample she found in fact that aspect occurs closest to the verb stem, followed by tense and then by mood (p 196).

Following this argumentation, I see the Congruence Principle as a competing principle of the Relevance Principle. How can a morpheme that is most congruent with the inherent aspectual meaning of a given verb be of a certain relevance to
this inherent aspectual meaning just by repeating it? It is not for nothing that the Congruence principle often has been called the Redundant Marking Hypothesis (Shirai 1993). In sum, there are several problems with the theoretical explanations of both the fu-to-fo findings and the fo-to-fu findings. In the discussion concluding this section I come back to this problems.

4.4 Summary and discussion

In this chapter I first gave an overview of the current state of the art of second language acquisition research on temporality. Within a functional approach two main research paradigms came out: the function-to-form and the form-to-function analytical approach of investigating the development of temporal reference means. In discussing the methodological considerations behind these studies I found that research in this area is biased in two ways. First of all with respect of the discourse-type of data which are mostly narrative data, heavily focusing on past reference. Secondly, most data elicitation tasks are non-experimental and are ignoring the perceptual side of language acquisition. Therefore, Bley-Vroman (1986) advocates research methodologies that go well beyond corpus collection, because of the ambiguity problem: “A restricted sample of the learner’s production cannot unambiguously determine the hypothesis type” (p. 367). Finally, the sample of target languages investigated is too restricted and often narrowed down to English (and Spanish): “The only truly cross-linguistic research on the acquisition of temporality is that conducted within the frame of a larger longitudinal project on Second Language Acquisition by Adult Immigrants, organized by the European Science Foundation” (Housen 1995: 138; see Perdue 1984, 1993).

My main concern however is the impossibility to compare the empirical findings of these studies notably because these studies are have totally different interest: Fu-to-fo studies are interested in the whole long route to the acquisition of the target temporal reference system (including all types of pragmatic, lexical and morphosyntactic means and their interaction) and fo-to-fu studies are mainly concerned with the final stages of acquisition: the acquisition of tense and aspect morphology. In fact, advocates of the fu-to-fo studies are not that interested at all in the development of target tense and aspect morphology which they consider as the most final and very difficult stage of acquisition which is only reached by a few learners. My second concern is the confusing terminology which seems to be inherent to all types of studies of temporal reference. As I already sketched in chapter two, talking about temporal relations presupposes a structure for which such relations are defined: it presupposes a basic concept of time which clearly distinguishes external temporal relations (relations between time spans as tense and positional adverbials do) and internal temporal features (the temporal characteristics of the time spans itself). In talking about concepts of time it is necessary to follow this distinction in a strict way, because this is the only way to disambiguate
for example the lexical aspect (internal temporal characteristics) vs viewpoint aspect confusion (external temporal relations, indicating a relation between the time spans TT and Tsit). This ambiguity must have been one of the main reasons for Meisel’s (1987) caution:

“Anyone who wants to claim that an aspectual system is characteristic of certain phases of L2 acquisition (...) will have to give solid empirical evidence.” (p 220)

Echoing this caution, lots of studies have tested the so-called lexical aspect and the discourse hypothesis within the fo-to-fu analytical approach identifying a form and trace its distribution in language varieties thereby determining their lexical aspect or grounding function. I argued against some empirical findings and their theoretical explanations within these approaches because:

(1) Almost all studies take English and/or Spanish as the target language and these two languages have clear contrastive imperfective (for English: progressive) and perfective markings which can be taken as prototype categories of morphemes. This is certainly not the case for Dutch and to a lesser extent for French, because as I already described in chapter 3, these language do not have clear contrastive prototypically morphemes distinguishing imperfective and perfective marking which can guide learners in the (order of) acquisition of particular morphemes (French only in the past tense).

(2) The relevance and the congruence principle as explanatory factors for the affinity of certain tense-aspect morphology for verbs of particular lexical aspect classes seem to me principles in competition. How can a morpheme that is most congruent with the lexical content of the verb stem be of a particular relevance of the verb stem if its not there for saying two times the same thing? Would it not be more logic that a learner develops a morpheme in order to express what is not already there in the lexical content of the verb, such as a perfective boundary marking for a verb like sleep without “natural” boundaries? Here I have to recall Klein’s (1994) important distinction between internal temporal features of verbs (lexical aspect) and external temporal relations between TT and Tsit (grammatical aspect) and TT and TU (tense). Verbs have inherent (internal) features which can be categorised in different ways like Vendler’s achievement’s, accomplishment’s, activities and state or Klein’s 0-, 1- and 2-states (see chapter 2, section 2.2.1). The Congruence principle within the lexical aspect hypothesis idea says that learners first cluster morphemes into these categories and then for each category pick up one salient morpheme. So a learner of English picks up -ed for marking achievements and accomplishment verbs (steal, brake, paint a house) and for marking activities the morpheme -ing because the meanings of the past perfective -ed and the imperfective -ing have prototypically the same (congruent) meaning. But would it not be more logic that learner develop first grammatical markings.
that can help them to express that the internal features of the verbs are in opposite with the discourse function of the verb form, e.g. to develop perfective markers for verbs with a durative meaning and vice versa (see also von Stutterheim 1991).

(3) Most studies in the fo-to-fu approach ignore the possibility of grammatical aspect (relation between TT and Tsit) and/or tense (relation between TT and TU) functions to be the explanatory factor of a particular order of acquisition. Researchers within the fu-to-fo ESF studies claim that after a stage of non-functional variation (also no lexical aspect function, see Noyau in Dietrich et al. 1995: 174) the first function of early tense and aspect markings is the expression of tense: the temporal relation between TT and TU.6

Finally, in all the studies I feel the lack of source and target language influences on (the order of) acquisition of temporal reference forms and functions. As far as concerns the functional side, the analysis of data from speakers of two aspect-based source languages (Turkish and Moroccan-Arabic) acquiring two tense-based languages (Dutch and French) of the present study allows the investigation of the influence of the source and the target temporal reference systems on the learner’s temporal reference system. With respect to the formal side, I already pointed (section 3.2.2) that for un-tutored learners of French who “never” have seen the orthographic verbal forms it is very difficult to tear apart from online speech the very opaque French morphological forms into semantic units. A contrastive analysis with a more morphologically transparent language such as Dutch makes it possible to investigate the influence of the form of the target temporal reference system on the learner’s temporal reference system.

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6 Here again there must be a clear terminological separation of what is a grammatical aspect and what is tense because of presumed ambiguities between anteriority, perfectness and perfectivity. These terms are all related to past actions or events but as I explained in chapter 2 they can easily be distinguished by explicitly identifying the separate roles of TT-TU (tense) and TT-Tsit (aspect).
Chapter 5

Research questions, informants, data

In the previous chapter, I presented the communicative, cognitive, semantic, and formal principles which have been proposed in the literature on second language acquisition to explain the use and (the order of) development of pragmatic, lexical, and morphosyntactic means for temporal reference. I assume that a combination of these factors shape the acquisition process. Consequently, the empirical part of my study combines function-to-form and form-to-function oriented analyses. In order to cover the total repertoire of linguistic means that learners use to fulfill the expression of temporal reference, I start my analyses from a particular temporal concept and see by what (combination of) means learners express this at different stages of development. In this way, one never has to forget the influence of the discourse organisation on the linguistic means at the local level and vice versa. Particularly in second language acquisition, the functioning of temporality is based on the interaction between what is explicitly given in words at the local utterance level and what can be implicitly inferred on the basis of context at the global discourse level. I strongly believe that the ignoring of the interplay between a rich set of discourse-pragmatic, semantic, and morphosyntactic devices and the exclusive concentration on tense and aspect marking yields a misleading picture of the acquisition process.

However, although the present study started from a conceptual and thus mainly qualitative analysis of temporal reference, I certainly did not avoid quantificationanalyses of (lexical and morphosyntactic) forms testing the hypotheses from the more form-oriented analytical approach such as the lexical aspect hypothesis. In this chapter I explain why I do not take into account the discourse hypothesis as formulated within the fo-to-fu approach (see previous chapter). In presenting the research questions and hypotheses of the present study I will show that narrative structure can have indeed a particular influence on the distribution of emergent tense and aspect morphology but not in the way as it is stated by researchers testing the discourse hypothesis within the fo-to-fu approach. I also re-integrate the “classic” grammatical aspect before grammatical tense hypothesis, because I do not want to exclude a grammatical aspect or grammatical tense function of the earliest allomorphic variations of basic verb forms.
The general aim of the empirical part of this study is to describe in detail the stages of development in the organization of temporality during a two-and-half-year period of untutored language acquisition by Turkish and Moroccan learners of Dutch and Moroccan learners of French. The data were collected from the onset of the acquisition process of the target language of their respective host countries. The informants started from scratch and good care was taken to confirm the similarity of their biographical characteristics and their monolingual background. The comparison of two source and two target languages in combination with a longer period of data-collection allowed the adoption of a cross-linguistic and longitudinal design and so fulfilled one of the most important methodological requirements I discussed in the preceding chapter (section 4.1). The data I used were mainly of the narrative type and consisted of spontaneous personal narratives and more stimulus-controlled film retellings.

Longitudinal case studies with informants from various L1 backgrounds learning different L2s are costly and therefore infrequent. When they do occur, we need to learn all we can from them. This explains why so many studies have used the same data and informants as I do in the present study. This multi-use implies that in many “data collection and informants” chapters (cf. Broeder 1991, Deen 1995, Perdue 1993, Schenning 1998, van de Craats 2000), the same data collection techniques and the individual portraits of the informants have already been largely described. Therefore, this chapter is rather short and gives a lot of references to other studies and to a field manual (Perdue 1993) in which the difficult quest for informants, the practical organization of data collection, and the (often interesting) socio-biographical information of the eventually selected informants is presented.

An important difference with previous studies is that, thanks to new developments in linguistic computing and in digital sound (and video) technology, it was possible during the present study to create a multi-media corpus which permits a new type of (automatic) analysis, including the audio and the video material. The Dutch and French data are all sound-linked by now, which means that the original audio-material is available on-line when analyzing or coding the transcribed data.

In this chapter, I first elaborate on the general research questions (section 5.1) of the present study. Then more specific information is provided on the seven key informants involved in this study (section 5.2). Section 5.3 describes the verbal tasks these informants were asked to carry out during the data collection. In section 5.4 I elaborate on the procedure for data analysis; the combination of the function-to-form and the form-to-function analyses and the way I coded the utterances of the learners. Finally, I describe the multi-media possibilities and the structure of the dataset on which the empirical part of this study is based.
5.1 The research questions

The aim of this study is to investigate how learners express temporal notions at different stages of acquisition. Fundamental questions are at first, what linguistic means learners use to express a specific temporal concept at a certain stage of acquisition and whether specific temporal concepts are implicitly or explicitly referred to. Then the question arises as to how the balance between the various linguistic means changes over time, why the learner develops a particular linguistic means at all, and, finally, why a particular form-function mapping is preferred over another. At first, the research questions of the present study parallel the research questions of the earlier ESF studies (see Dietrich et al. 1995: 1):

(a) What linguistic means do second language learners use to mark temporal reference at a given stage of acquisition? How are temporal properties of events conceptualised by the learner, how are the temporal concepts expressed, and how do the various kinds of linguistic means (lexical, grammatical and discourse-based) interact under different contextual conditions?

(b) How does the balance between the various linguistic means change over time? What developmental patterns emerge in the course of the acquisition process, both on the semantic level and in the learner's formal repertoire? How do these learners enter the target language-specific grammatical tense and aspect system?

(c) Why do learners develop a particular temporal form-function mapping? What mechanisms or factors drive the learner to acquire a particular temporal form-function mapping? Or conversely, what factors block -sometimes permanently- the transition to a following stage of acquisition?

Current developments in research on the acquisition of temporality in a second language allow me to concentrate more on explanatory factors than on the question as to what linguistic means are acquired. In all languages, in general, the two basic modes of linguistic temporal reference are lexis (e.g., adverbials and connectives) and morphology (i.e. inflections and auxiliaries) with discourse means as the implicit guiding mechanism. It is generally attested that learners first mark temporal reference lexically before proceeding to a gradual and often slow acquisition of morphological devices (Dietrich et al. 1994, Meisel 1987, Giacolone-Ramat 1992, Skiba & Dittmar 1992). With this knowledge in mind, the empirical data analyses of the present study will concentrate first on the lexical and then on the morphological mode. I emphasize again that these analyses are always based on the interaction between the various linguistic means at the lexical, morphological, and discourse level.

In analysing the data, I follow the developmental pattern of the learners. In chapter 6, I start with the use of temporal adverbials (tadvs) and, in the following
two empirical chapters, I concentrate on the acquisition of verbal morphology. The acquisition of verbal morphology implies the acquisition of more language-specific means. Therefore, I make a distinction between the acquisition of Dutch (chapter 7) and the acquisition of French (chapter 8) for this morphological stage of acquisition. Chapter 9 brings the different empirical findings together.

For each linguistic mode -lexis or morphology- I will set up a subset of specific research questions at the beginning of the respective chapters. I already explained in section 4.1 that it seems to me best to adapt the methodological approach to the type of research questions and the type of data at the different stages of development. This means that in order to investigate what tadvs are used at what stage of acquisition, I use the total data-base and carry out a form-function oriented analysis. However, in order to investigate how the interaction of various linguistic means is exploited for establishing temporal relations between events in discourse, I carry out function-to-form analyses on a sub-set of the data, which consists of coherent sequences of utterances in discourse. To analyse acquisition orders of verbal morphemes and to test clear prediction hypotheses like the lexical aspect hypothesis, I analyse (and quantify) forms in the total amount of data and try to determine their function following a form-function approach. Below, I formulate the more specific questions for first the lexical and then the morphological part of my empirical analyses.

5.1.1 Research questions on the lexical stage

For the *lexical* stage of acquisition, I focus on two related questions:

(a) What are the semantics of each temporal adverbial in each stage of each learner variety?

(b) What is the structural embedding of temporal adverbials, that is, the position in the utterance and the interaction between the temporal adverbials and other elements in the utterance?

In section 2.2.2, I showed that tadvs can specify the internal and the external properties of time spans in a very precise way. Then, I argued that which of the two relevant time spans, i.e. the time talked about (TT) or the time of the event/situation (Tsit), is specified depends on the structural embedding of tadvs in the utterance. The other time span, i.e. the time of utterance, is always determined by the moment of speech. In section 2.2.3, I gave some examples to illustrate the complex interaction between position and function of a tadv in fully-fledged languages like English and Dutch. Temporal adverbials have scope properties and, depending on their position in the utterance, they have scope over the TT or over the Tsit. In the field of theoretical linguistics, a great amount of studies investigate the interaction between structural and semantic properties of temporal adverbials. In the field of language acquisition, only a few very recent
studies tackle the question of if and how learners acquire the scope properties of 
tadvs, their semantic properties, and the interaction between them.

The fundamental question for these analyses is “What can tadvs express and 
what can they not express?” or to put it differently “Can tadvs compensate for 
functions of grammatical tense and aspect marking?” Both questions are triggered 
by the general motor of the present study “Why do learners develop grammatical 
tense and aspect marking at all?” From earlier studies, it has become clear that an 
optimalisation of the lexical temporal reference system together with an optimal 
management of pragmatic discourse principles has to be considered as a serious 
blocking factor in the grammaticalisation process.

5.1.2 Research questions and hypotheses on the emergent 
morphological stage

The development of a morphological stage of acquisition is, as we have seen in 
section 4.2, dependent on four major stages of the acquisition of verb phrase, i.e. 
from the stage of having no productive verbs at all to the stage of having a 
functional distribution of morphological variation with emergent tense and aspect 
markers (morphemes and auxiliary-like elements). Using a combination of 
function- and form-oriented analyses, I will create an extensive record of the 
emergence of the first tense and aspect markings of the individual informants 
answering the question, what is the first form which deviates from the base form 
and what is its function? I want to emphasize here that in the long process of 
acquiring the target temporal reference system, learners develop some very 
idiosyncratic forms. They consist of, for example in Moroccan-French, nine 
allomorphic variations of the same verb without an apparent functional contrast 
or auxiliary-like free morphemes which, although they are very close to the verb, 
are not fused with it yet (see section 4.2.2). In principle, I include all allomorphic 
variations but also auxiliary-like free morphemes in my formal analyses of 
emergent tense and aspect markings. Besides a fu-to-fo and a fo-to-fu analysis, I 
also investigate the structural scope properties of early tense and aspect markings 
asking the question, what is the position of these early tense and aspect markings 
and does this affect their function? The subset of questions for the chapters 7 and 
8 about the morphological stage of acquisition (chapters 7 and 8) are as follows:

(1) How do the learners of the present study enter the formal tense and aspect 
    system of the target languages, that is, what are the first verbal forms which 
    contrast with the base verbs?
(2) What meaning contrasts are associated with these early contrastive forms?
(3) Is there a one-to-one mapping of the meaning and the position of these early 
    tense and aspect morphemes?
(4) What factors shape and push the development of a morphosyntactic tense and 
    aspect system?
In order to answer the first question, it is clear that analyses of occurrence over the total corpus must be carried out. What are the basic forms used by the learners and what are the earliest contrastive forms to these basic forms? In other words, what do the earliest experimentations with verbal morphology look like?

Regarding question two, several hypotheses are stated in the literature making different claims about what learners of a second language tend to express by their earliest morphosyntactic forms (see the review in chapter 4). These hypotheses can be two divided into two types. First, there are the lexical aspect and discourse hypotheses which claim that there is a distribution of particular morphemes to a particular verb depending on the semantic type of the verb or on the grounding function of the verb in discourse (see section 4.3.2). Studies investigating these hypotheses start from the assumption that the variation in early verbal forms is not determined by contrasts of tense and aspect meanings but by contrasts in lexical type of the verbs or by contrasts in the grounding function of the verb. On the other hand, there is the more “classic” grammatical aspect before tense hypothesis. This hypothesis departs from the assumption that from the onset of morphological experimentation, the contrastive verbal forms do have an aspect (or tense) meaning indeed. Note that the results of the ESF study falsify the aspect before tense hypothesis (see section 4.1.2). Dietrich et al. (1995: 271) claim that “in all cases, tense comes first” or tense is acquired before aspect. The difference between the two types of hypotheses is essential for the procedure of investigation and has deep consequences for investigating the way in which core meanings and formal contrasts are established in the emerging morphosyntactic learner system of tense and aspect markings.

Testing the lexical aspect hypothesis means that combinations of verb stems of a particular semantic category with a particular tense or aspect morpheme have to be investigated. First, both occurrences and frequencies of combinations of particular verbal forms with particular semantic types of verbs are taken into account. Testing the discourse hypothesis implies that portions of discourse have first to be divided in foreground and background. Then the distribution of particular morphemes over foreground and background has to be counted. Below I try to explain that because of its methodological and theoretical problems (as I also have discussed in chapter 4) the discourse hypothesis is very hard to test. Therefore I neglect the discourse hypothesis in the present study, although I will re-integrate the factor of discourse coherence in testing the aspect before tense and the tense before aspect hypothesis. Testing these hypotheses implies that for the first occurrence of particular verbal forms it has to be decided if it is an indication of aspect or an indication of tense.

Because of the confusing terminology in the literature of what is exactly the difference between lexical aspect, grammatical aspect and grammatical tense, these hypotheses have to be defined exactly. By lexical aspect I mean the inherent features of an event description, i.e. the verb and its arguments. I defined in section 2.2.1 three different event descriptions in terms of 0-, 1- and 2-state
Although in the literature Vendler’s classification is widely used, it continues to be refined and reformulated (see e.g., Moens 1987, Shirai & Kurono 1998, Smith 1991). Therefore I use Klein’s (1994) definition of the temporal features of the lexical content of an event/state according to its linking to some topic time. For 0-state expressions (be, love) there is no topic time contrast involved (states; durative + atelic); for 1-state expressions (swim, look) at least one topic time contrast is involved (activities; dynamic + atelic) and for 2-state expressions (find, break, die, give a letter, steal a loaf of bread) there is an internal topic time-contrast for a source and a target state (achievements and accomplishments; dynamic + telic).

By grammatical aspect and tense I mean the external temporal relationships between the topic time TT, the time of utterance TU, and the time of situation Tsit. In order to test the aspect before tense and the tense before aspect hypotheses, the aspect and tense functions must be clearly distinguished. On the basis of Klein’s Basic Time Structure (1994, see section 2.1.2), I define aspect as the temporal relation between the time talked about (the topic time TT) and the situation time itself (Tsit). Tense is defined as the temporal relationship between the topic time TT and the time of utterance TU. The grammatical aspect before tense hypothesis tested in this study claims that the first emerging morphological markings (e.g., inflections and auxiliaries) have a grammatical viewpoint function, that is, they encode how the Tsit of the event described in the utterance is related to the TT for which the utterance is asserted. The tense before aspect hypothesis, as corroborated by the ESF studies (Dietrich et al. 1995) claims that the earliest variation in verbal forms must be explained by variation in the temporal relation between the TT and the TU.

How do I re-integrate the role of discourse coherence in the aspect before tense and the tense before aspect hypothesis? I first explain my arguments against the “old” discourse hypothesis as described in section 4.1.3 and then I explain my ideas about the role of discourse on emerging tense and aspect morphology. The discourse hypothesis claims that emerging tense and aspect morphology is determined by narrative structure which is defined as “grounding”; learners start to use distinct verbal forms in order to distinguish foreground and background in narratives. This implies that proponents of the discourse hypothesis consider that “the main use of inflections is to distinguish the main point or goal of the talk from supporting information” (Bardovi-Harlig 1999: 373). This claim has, first of all, a methodological problem in defining what exactly is the main point (foreground) and what is the supporting information (background) in a text. Secondly, a grounding analysis can only be carried out in narratives (see Bardovi-Harlig 1999: 367). Therefore, I decided to use Klein and von Stutterheim’s (1987) “quæstio-model” (section 2.3.2) which enables me to distinguish main and side structures of whatever discourse type (defined in terms of the general question it answers).
Besides these methodological problems, I have a more fundamental objection to the discourse hypothesis and this brings me back to my idea about the role of discourse coherence in emergent tense and aspect morphology. In the “old” discourse hypothesis, grounding is seen as the most important factor in the establishment of discourse coherence and therefore the primary goal of verbal inflection. I do not share that view. My reflections on the interaction between the utterance and the discourse organisation of time in section 2.3 made clear that I assume that it is the establishment of a straightforward temporal order between events which is the driving force behind the development of linguistic means such as, for example, verbal inflection. In whatever way the speaker may choose, the temporal order between events (or states) must be made clear in each type of discourse. Although grounding contributes to the temporal coherence of a text (backgrounded events are simultaneous with foregrounded events), I assume that the temporal order between events is established primarily by what I call “topic-time tracking” (Bohnemeyer 1998: 111). I described in section 2.3.1 that I believe that temporal coherence in discourse is established by the discourse-pragmatic, lexical, or morphological encoding of (1) the global TT-TU relation (tense), (2) the local TT-Tsit relation (aspect), and (3) the anaphoric relation between TT’s (before, after or while). If the discourse type is known, the essential part of this temporal information is already given (see the quaestio-model described in section 2.3.2).

In narratives, for example, by default, all events are following each other (topic condition) and are perfectly narrated (focus condition). The global TT-TU relation in a narrative is normally that TT is before TU because the events have happened in the past. In contexts where these default conditions are violated, learners have to indicate these “deviant” temporal relations. The relevant question is how they express this. Do lexical adverbials suffice or do learners have to use morphosyntactic means? If they do, which of the temporal relations will be “morphologised” first, tense or aspect? In order to find out whether the first occurrences of morphological experimentations are indications of a deviant tense or aspect temporal relationship, I will use very restrictive contexts in which the above default conditions are violated. I refer to them as diagnostic contexts.

The third research question concerns the relation between the position and the function of the earliest morphosyntactic forms. Do early morphosyntactic forms always occur at the same position? Do differences in position imply differences in meaning? In order to describe the structural properties of the earliest tense and aspect markings in relation to their semantic properties, I will first carry out detailed analyses of occurrences on a small subset of the data.

Several factors determining the development of morphosyntactic tense and aspect marking (see the research question four) have been brought up in the literature (see section 4.3). I believe that these factors have to be divided first in “shaping”
factors and in “pushing” factors, although it must be the interaction between these factors that determines the learners’ morphosyntactic tense and aspect system. The shaping factors function like a type of filter through which the learner acquires the target tense and aspect system. I consider the following factors as a kind of filter mechanisms which guide the second language learner through the “jungle” of the target verbal morphology:

(1) The lexical aspect of the verbs with which the various tense and aspect morphemes are fused;
(2) The semantic, structural and formal characteristics of the temporal reference system of the source language;
(3) The semantic, structural and formal characteristics of the temporal reference system of the target language.

The analyses in chapters 7 and 8 will concentrate on the weight of each of these factors. Depending on the weight of each of these factors, the semantic, structural and formal characteristics of the learners’ emerging tense and aspect system will look different. If lexical aspect plays the most important role, then a particular semantic type of verb gets at first the most congruent (and so redundant) prototypically type of verbal marking (see section 4.3.3). If the semantic, structural and formal characteristics of the source language play a decisive role, then the learner will look for the same characteristics in the target language independently of the semantic, structural and formal characteristics of the target temporal reference system. If it is the target system and its properties that have the most important influence, then it will be mainly the transparency of the semantic, structural and formal characteristics of the target tense and aspect system that play a decisive role.

This investigation is allowed by the cross-linguistic design of this study. Learners from two different aspect-based source languages (Turkish and Moroccan-Arabic) are learning one and the same tense-based target language (Dutch). Two different tense-based target languages (Dutch and French) are learned by learners from one and the same aspect-based source language (Moroccan-Arabic). As far as the transparency of the target system is concerned, I already pointed out in section 3.2.2. that it must be very difficult for someone who learns French in every-day communication to tear apart function and form of the opaque French suffixes.

The essential difference between shaping and pushing factors is that the former ones concern possible explanations as to how various temporal notions are acquired (or not) whereas the latter ones concern explanations as to why there are acquired. This is, I believe, the most interesting but also the most problematic question in the case of the acquisition of grammatical tense and aspect. In the introduction to this study (chapter 1) I called this second bundle of explanatory
factors “the learner’s propensity to acquire”, i.e. his communicative needs, motivations and attitudes towards the target language and its speakers. I explained that it is very difficult to weigh the contribution of socio-psychological vs pragmatic-communicative factors as pushers of the acquisition of temporality and that in this study I only concentrate on system-internal factors. But then still, communicative needs have to be defined in clear terms of system-internal pressures and this remains a difficult task. What linguistic means are needed in everyday communication? Can lexical temporal adverbials compensate for morphosyntactic tense and aspect marking? I believe that the only way to find out which system-internal factors push the learner to acquire grammatical tense and aspect markings is to look at what I refer to as diagnostic contexts. I already explained above that these must be contexts which permit the researcher to see what linguistic means the learner needs to express straightforwardly the temporal relation between the events or states described in the context. The communicative needs then are defined as the expression of violations of three default discourse-pragmatic conditions which I stated in section 2.3.1 (and which I repeated above).

Assuming that communicative pressure in general pushes the second language learner to develop further linguistic means, the pushing factor for developing verbal morphology must be then that lexical adverbials do not suffice for expressing violations of the three default discourse-pragmatic conditions mentioned above. It can be very tentatively stated then, that learners “need” to develop grammatical tense or “need” to develop grammatical aspect. Depending on which of these two notions is the most urgently “needed” in communication, grammatical aspect is acquired before tense or vice versa. Because in language acquisition data one should be prepared to interpret the learner’s form as not always having the target language function, the tense or aspect function needs to be classified independently of the learner’s encoding. The diagnostic contexts, in which the tense and aspect relations are controlled as much as possible, serve as an analytic tool to determine the function of learner utterances independently of the linguistic forms.

5.2 Informant characteristics

My study is based on longitudinal and cross-linguistic data from the ESF project, in order to study and compare the development of individual temporal reference, systems and to examine whether and how individual form-function patterns change in the course of development. This made it possible to compare two patterns of development: one from learners with two different aspect-based source languages (Turkish and Moroccan-Arabic) who acquire the same tense-based target language (Dutch), and one from learners with the same aspect-based source language (Moroccan-Arabic) acquiring two different tense-based target languages (French and Dutch). All the data were provided by the ESF databank
on adult language acquisition. There were eight learners of Dutch, i.e. four Turkish (Ergun, Mahmut, Osman, and Abdullah) and four Moroccan (Mohamed, Fatima, HassanK, and HassanM) learners, and three learners of French (Abdessamad, Zahra, and Abdelmalek). In addition, I analysed data from four native speakers of Dutch (Juul, Albert, Lenie, and Peter). The choice of Moroccan-Arabic and Turkish as the source languages in the Dutch part of the ESF project was based on two arguments:

1. Speakers of those two languages belong to the major immigrant groups in the Netherlands;
2. These source languages could be matched with other informants in the ESF project selected in France (Moroccans) and Germany (Turkish).

Data collection took place over three cycles of nine months, with one session per month on average. During these sessions, a certain number of activities took place, such as narratives, film retellings, role-plays, and conversations (see Perdue 1984, 1993a). For this study, seven key informants were selected from the total ESF databank to provide a database representing a spectrum of different types of development: Mohamed, Fatima, Ergun, Mahmut for the Dutch data and Abdessamad, Zahra, and Abdelmalek for the French data. This selection was made on the basis of earlier research (see Perdue 1993) in which Mohamed, Ergun, Abdelmalek, and Abdessamad were known to be relatively fast learners and Mahmut, Fatima, and Zahra relatively slow.

The criteria adopted for selecting informants were applied to safeguard against too much obvious dispersion in their backgrounds, living, and working conditions at the outset. Perdue describes the “ideal” informant in the Field Manual at the onset of the longitudinal study (1984: 276):

“S/he is aged between 18 and 30, has legal status, no native TL-speaking spouse and no children of school-age. His/her education is limited. S/he is therefore probably working class, with work (or some other activity) providing day-to-day contacts in the TL. His/her proficiency is very limited at the start of the investigation, thus s/he will normally have been resident in the target country for a short while - preferably less than one year- and will not be receiving regular TL tuition. The TL will be his/her second language.”

The elaborated individual portraits of the Dutch main and other informants are presented below (see table 5.1, 5.2 and 5.3). They originate from Broeder (1991: 14-15; see also Perdue 1993, Deen 1995). The socio-biographical information of the three French informants originates from Noyau (1995) and Véronique (2000). I start with the Turkish-Dutch informants.

*The Turkish-Dutch main informants*

Ergun left Turkey at the age of seventeen and joined his parents in Tilburg. After
five months he found a job as a factory worker. At the time of the first session in the ESF project, Ergun had been living in the Netherlands for about eleven months. After two years in Tilburg, he moved to Groningen, a city in the northern part of the Netherlands. Given the fact that there are not many immigrants living in Groningen, Ergun’s level of contact with Dutch native speakers increased. As far as his education is concerned, it can be said that after five years of primary school, he started already working as a mechanic in Turkey.

Mahmut went to the Netherlands at the age of nineteen to join his wife, who had been living there for about four years. He joined the project about nine months after his arrival. After a year, he found a job in a meat factory but his level of contact with Dutch native speakers was still very limited. He had the same limited primary school education as Ergun (see table 5.1).

The Moroccan-Dutch main informants
Mohamed joined his father, who had been living in the Netherlands for almost fourteen years, about eight months before the beginning of the data collection. Soon after his arrival, he found a job as a factory worker, which he held throughout the data collection period, except for a short period of unemployment. As a youngster, living in a small town near Tilburg with relatively few immigrants, he soon had lots of contact with native target language speakers, from the authorities to other youngsters in discotheques and bars. Because of troubles with his parents, he regularly stayed with his uncle for extended periods of time. After a year-and-a-half, he moved in with his Dutch girlfriend in her parents’ house. At the end of the data collection, when he was almost 24, he was living with another Dutch girl. He had not taken part in any language course. His education in Morocco (Casablanca) consisted of primary school and two years of secondary school.

At the time of the first session, Fatima had been living in the Netherlands for one year and her proficiency in Dutch was almost zero, although she had taken part in a voluntary training course for migrant women and continued to do so. She had a part-time job as a cleaning woman in the kitchen of a motel, where she worked with other Moroccan and Turkish women. Her contacts with native speakers of Dutch were very limited. She attended primary school for only two years, after which she received sewing and knitting lessons (see table 5.1 below).
Table 5.1  Basic socio-biographic characteristics of the Turkish and Moroccan main informants

<table>
<thead>
<tr>
<th>Turkish</th>
<th>Moroccan</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sex</td>
<td>male</td>
<td>male</td>
</tr>
<tr>
<td>marital status</td>
<td>married</td>
<td>single</td>
</tr>
<tr>
<td>native country</td>
<td>Ankara</td>
<td>Ankara</td>
</tr>
<tr>
<td>native country</td>
<td>mechanic</td>
<td>mechanic</td>
</tr>
<tr>
<td>age of arrival NL</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>skills other lang.</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>residence NL</td>
<td>Tilburg</td>
<td>Tilburg</td>
</tr>
<tr>
<td>education NL</td>
<td>none</td>
<td>Educ. centre</td>
</tr>
<tr>
<td>employment NL</td>
<td>fact. worker</td>
<td>fact. worker</td>
</tr>
<tr>
<td>living with</td>
<td>wife</td>
<td>Turkish family</td>
</tr>
</tbody>
</table>

The additional Turkish-Dutch and Moroccan-Dutch informants

The data of four additional informants were taken into account in this study, two Turkish-Dutch informants (Osman and Abdullah) and two Moroccan-Dutch informants (Hassan K and Hassan M). Their socio-biographical characteristics are given in table 5.2. Their characteristics show these additional informants to be comparable to the main informants (see table 5.1).

Table 5.2  Basic socio-biographical characteristics of the additional Turkish and Moroccan learners of Dutch

<table>
<thead>
<tr>
<th>Turkish</th>
<th></th>
<th>Moroccan</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sex</td>
<td>male</td>
<td>male</td>
<td>male</td>
<td>male</td>
</tr>
<tr>
<td>marital status</td>
<td>single</td>
<td>single</td>
<td>single</td>
<td>married</td>
</tr>
<tr>
<td>native country</td>
<td>Trabson</td>
<td>Kirschir</td>
<td>Casablanca</td>
<td>Casablanca</td>
</tr>
<tr>
<td>native country</td>
<td>farmer</td>
<td>various</td>
<td>none</td>
<td>hooker agent</td>
</tr>
<tr>
<td>age of arrival NL</td>
<td>17</td>
<td>19</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>skills other lang.</td>
<td>none</td>
<td>none</td>
<td>some French</td>
<td>some French</td>
</tr>
<tr>
<td>residence NL</td>
<td>Tilburg</td>
<td>Tilburg</td>
<td>Oisterwijk</td>
<td>Tilburg</td>
</tr>
<tr>
<td>education NL</td>
<td>Educ. centre</td>
<td>Educ. centre</td>
<td>Educ. centre</td>
<td>Comm. centre</td>
</tr>
<tr>
<td>employment NL</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>fact. worker</td>
</tr>
<tr>
<td>living with</td>
<td>parents</td>
<td>parents</td>
<td>parents</td>
<td>wife</td>
</tr>
</tbody>
</table>
The Moroccan-French informants

At the time the data collection started, Abdelmalek was twenty years old and had been illegally living in France for approximately twelve months. He arrived in France via Spain. His first language is Moroccan Arabic. After his migration to France, Abdelmalek worked as a fisherman on a boat in Marseille, until he had an accident in 1984. He was single and lived in a workman’s home. He received a primary education in Morocco and had some rudiments of Spanish and French on arrival, but no professional qualification. He followed a French course for one hour per week for a short time, but this course had no noticeable effect on his performance in French. According to Klein et al. (1992), his performance was remarkable, to say the least. To call him a “risk-taker” would be an understatement. He was very talkative, and loved to tell stories and interact generally in French.

Abdessamad was about twelve months in France when the first session of data collection took place. During the data collection, he had several jobs as a handyman. He was not married and lived in a shelter in Marseille. He can be characterised as the most advanced learner of French.

Zahra was in her early thirties when she came to Marseille with her four children to live with her (bilingual) husband, who was already working there. About two years after her arrival, the first data session took place. During the longitudinal data-collection she worked as a cleaning lady. She had some contact with French speakers through her work and also through school authorities when her children start attending. She herself had no schooling whatsoever in Morocco, and the French course she attended on arrival in Marseille (2 hours per week) was apparently of very little benefit to her. In general, her situation as a Moroccan wife and mother made contacts outside the family somewhat difficult, and she remained reserved about speaking French (see table 5.3).

Table 5.3 Socio-biographical characteristics of the Moroccan learners of French

<table>
<thead>
<tr>
<th></th>
<th>Moroccan-Arabic</th>
<th>Zahra (ZA)</th>
<th>Abdessamad (AS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sex</td>
<td>male</td>
<td>female</td>
<td>male</td>
</tr>
<tr>
<td>marital status</td>
<td>single</td>
<td>married</td>
<td>single</td>
</tr>
<tr>
<td>age of arrival in FR</td>
<td>20</td>
<td>34</td>
<td>24</td>
</tr>
<tr>
<td>residence in FR</td>
<td>Marseille</td>
<td>Marseille</td>
<td>Marseille</td>
</tr>
<tr>
<td>languages</td>
<td>some Spanish</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>education in FR</td>
<td>Educ. centre</td>
<td>Educ. centre</td>
<td>Educ. centre</td>
</tr>
<tr>
<td>employment in FR</td>
<td>fisherman</td>
<td>seamstress</td>
<td>bricklayer</td>
</tr>
</tbody>
</table>

In many respects, the informants are quite similar and they represent the average Turkish and Moroccan immigrant living in the Netherlands and in France who acquire Dutch and French as a second language in every-day communication.
5.3 Complex communicative tasks

One of the more important aims of the research teams of the ESF project was to base their descriptions of learner varieties on in-depth, longitudinal studies, "(...) seeking to identify which communicative factors, in context, motivated linguistic development, and which factors caused the learner’s language to fossilise" (Perdue 1993: 6). It was therefore decided to collect a variety of comparable spoken language data from small groups of learners over time, with the goal of reconstructing definable and recurrent language activities from recordings of spoken exchanges, and of observing how the linguistic characteristics of these activities evolve:

"adult learners were regularly recorded over a period of two and a half years from as near as possible to the beginning of the learning process, with the aim of constituting a corpus of 25-30 recordings of approximately two hours’ length for 40 learners, i.e., four learners for each SL-TL pairing."

These encounters or sessions were divided into three similar cycles, each cycle consisting of six to nine sessions, depending on the possibilities of the individual research teams. By repeating speech elicitation activities in the form of cycles, the informants could be observed three times in similar conditions of language use. In this way, comparable data over time became available for analysis, offering a high-quality perspective on linguistic details of the L2 acquisition process. In table 5.4 below, an overview of the different data collection techniques is given for each session in each cycle; recurring activities can be retrieved in Cycles 1, 2, and 3, in that order (see Schenning 1998).

In the present study I used for the form-to-function analyses all these types of data. For the function-to-form analyses I used only the data which are in the second column and which are described as follows in the manual of the ESF database:

"More or less guided conversations usually started the encounter between researcher and learner, and was used primarily to complete the socio-biographical information about the learner. Thus, amongst other discourse types, personal narratives were elicited." (Feldweg 1991: 14)

The notation convention used in this study to refer to numbers of sessions in which specific activities occurred consists of the cycle number followed by the session number within that particular cycle (e.g., sessions 1.3, 2.3 and 3.3 refer to session 3 in cycles 1, 2, and 3, respectively). In the presentation of utterances, the session numbers precede the initials of the concerning informants: Ergun is ED, Mahmut is MA, Mohamed is MO, Fatima is FA, Osman is OS, Abdullah is AU, Hassan K is HK, Hassan M is HM, Abdelmalek is AL, Zahra is ZA, Abdessamad is AS. Informants were recorded in real-life everyday communications wherever
possible, or in role-plays of these transactions with volunteer representatives of the host society (bank clerks, employment officers, etc.). Conversations with researchers were recorded at every meeting. Furthermore, small-scale tasks (stage directions, film-retellings, route directions, self-confrontations, a French proficiency test for the Moroccan informants) especially designed to get abundant relevant data for specific research areas were recorded at set intervals.

5.4 Data-analysis

As a first heuristic step, investigation of the various types of explicit and standard-like temporal devices can be productive. However, such a strategy has two important disadvantages. The first is that it does not account for implicit temporal references, nor for the use of non-standard linguistic tools. Therefore, spotting potentially interesting temporal adverbials in the output from word listings of the data will be complemented by analyses of implicit methods of reference to temporality in discourse.

Secondly, with respect to for example the development of tadvs, this strategy does not show us which target language tadvs are not used by the learner (either at a certain stage or not at all). Therefore it was necessary to base my inquiry of the use of tadvs in learner utterances on existing listings of Dutch and French adverbials as they are given in standard works on the use of the target language (e.g. for Dutch ANS Algemene Nederlandse Spraakkunst by Geerts et al. 1984 and, for French, Le français parlé by Blanche-Benveniste 1991). The same holds for investigating the first tense and aspect markings in the learner varieties; looking for the target morphosyntactic markings would not show the rich idiosyncratic repertoire used by the learners in order to convey the same temporal relations between TT and Tu (tense) and between TT and Tsit (aspect).

Within the scope of this study, it was decided to concentrate on two techniques of data-analysis: the concordance technique and a discourse-oriented analysis technique. The former is based on automatic form-to-function analyses over the total corpus and the latter one function-to-form analyses of linguistic means used in context over a sub-part of the corpus; the diagnostic contexts. In order to trace in more detail the impact of global discourse organization rules on the development and use of temporal-aspectual means at the utterance level (see section 2.3), I had to select data in order to carry out in-depth analyses in addition to the frequency analyses which were performed over the whole set of data. I chose to use two types of complex verbal tasks. The first type were personal narratives (monologues), which seem to offer the richest temporal structure as they require both a deictic (with respect to the time of utterance) and anaphoric contextualization of events (in a sequence of utterances). The second were film retellings, which permit checking the intended temporal reference of the informants (which in early learner varieties is often left implicit) and were used as diagnostic contexts.
The retelling of the silent film “Modern Times” (see Perdue 1993) was used as the most structured type of narrative discourse data in the ESF project. The procedure, described in chapter 6, was done three times by the learners of French and two times (cycle 2 and 3) by the learners of Dutch. I am very aware of the fact that film retellings and personal retellings of experiences are embedded in time in different ways. Personal narratives have a clear deictic anchoring time span, which is the time of speech. All personal experiences normally happened in the past, before TU (although I also found references to future events or states in the personal narratives). For the film retellings, this is totally different and the temporal embedding of the film retellings depend heavily on the scaffolding of the interviewer. Does he use a past topic time “What happened in the film (after I left)?” or a present one “Can you tell me what happens after Charlie leaves prison?”.

I would like to argue here that, although the interviewers presumably all followed the same procedure, it does not matter very much for my analyses of the way temporal relations are established by the learners in the film retellings. I already described in section 2.3 the global TT maintenance principle or anchoring tense: this principle first defines for each TT in a set of related utterances (or discourse episode) the relation between TT and TU. The location of TT relative to TU in a set of related utterances (or discourse episode) can be explicitly marked by a positional tad in the first utterance of an episode or is based on situational context (the episode is in the past for example). If it is not marked explicitly, the relation between TT and TU is by default simultaneous (TT=TU is present). The global temporal frame which is thus set is then implicitly maintained over subsequent utterances, unless marked otherwise. This means that the learner, once an anchoring tense (relation TT-TU) is chosen, should maintain this tense unless there is a shift of temporal frame (from present to past reference or vice versa, for example). When analyzing the film retellings, I look at whether the time chosen as an introductory tense is maintained throughout the story. Deviations from the anchoring tense should be motivated then by either a change of the global TT to TU relation (the learner decides to change from embedding the discourse in the present to embedding in the past, for example) or of the local TT to Tsit relation (a change in the aspectual viewpoint marking). In order to determine the anchoring tense in a related sequence of utterances, one should look at independent straightforward markers of the TT to TU relation, such as the use of past deictic adverbials. The problem is that deictic adverbials are not used in film retellings because of their non-deictic embedding. However, in Dutch, there is another way to determine the anchoring tense of a film retelling: the difference between the past anaphoric AFTER adverbial, en toen ‘and then’, in contrast to the present one, en dan ‘and then’. Furthermore, although film retellings are not embedded in the past in the way personal narratives are (see Noyau 1989), they exhibit a similar temporal organization with respect to their division in the main and side structures. That is, the relation between the events which form the main
structure or the story-line, is a chronological shift-in-time relation, with states referentially attached to the main events as side structure material (see Bardovi-Harlig 1998, Klein & von Stutterheim 1987, Noyau 1989, Reinhart 1984; see section 2.3).

Selecting, coding, and classifying of the data depends on the individual research questions and is explained in the relevant sections in chapters 6, 7 and 8 under the heading “data-analysis”. Depending on the research question, the total set and/or different subsets of the data were used in the various analyses. In order to give an impression of the size of the database of spoken nonnative Dutch used in this study, the following table is given.

<table>
<thead>
<tr>
<th></th>
<th>Cycle 1</th>
<th>Cycle 2</th>
<th>Cycle 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatima</td>
<td>7,700</td>
<td>10,600</td>
<td>12,000</td>
</tr>
<tr>
<td>Mohamed</td>
<td>14,200</td>
<td>20,400</td>
<td>19,700</td>
</tr>
<tr>
<td>Ergun</td>
<td>13,200</td>
<td>22,800</td>
<td>25,500</td>
</tr>
<tr>
<td>Mahmut</td>
<td>15,500</td>
<td>20,400</td>
<td>23,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50,600</strong></td>
<td><strong>74,200</strong></td>
<td><strong>80,200</strong></td>
</tr>
</tbody>
</table>

All the data of the ESF corpus are now (since 1997) in CHAT-format, i.e., the utterances appear on separate coding lines and can be extracted and analyzed by using standard search operations for concordance analyses and frequency counts (see MacWhinney 1991). One coding line is used as a so-called ‘sound tier’, the link between the transcribed and the speech material. All the ESF data are sound-linked since 1999. This means that the transcriptions and the speech material can be coded and analyzed on-line, which implies that researchers can decide themselves where to put intonation markings, utterance boundaries, etc. The original multiple and various notation conventions (for pauses, interruptions, rising and falling intonation, self-repairs, utterance boundaries, etc.), used by the ESF research teams and often the subject of lots of discussion, became redundant thanks to the use of sound-linked utterances. The examples presented in this study are stripped as-much-as-possible of the mostly superfluous symbols in the transcriptions, which often made them uncomprehensible. If notation conventions are used, this is mentioned in the relevant section. In general, all parts in italics are literal quotes from the corpus. Free translations are provided in single quotation marks, summaries of the context are given in square brackets.

Finally, it is worth mentioning here that the data analysis techniques for the Dutch and the French data are strongly adapted to the kind of data and their transcriptions and sound material. For reasons of perceptual opacity and multifunctional suffixes, prefixes, and infixes of the verb (see section 3. 2.2), it was
impossible to carry out the same automatic search programmes for the French as for the Dutch data. Automatic search analyses for finding occurrences of Dutch *is* 'is' or *heeft* 'has' are much easier to use than those for finding occurrences of French *[e]* 'is' or *[a]* 'has'. First of all, it is hard to hear the difference in the Moroccan-Arabic-French data and this makes it difficult to rely on the transcripts. Secondly, these minimal characters are difficult to catch in an automatic search because they occur in multiple different strings.
Chapter 6

The initial repertoire:
Basic steps in adult L2 acquisition

From now on, I will follow the learners' course of acquisition towards the target temporal reference system of Dutch and French. To capture the way in which learners progressively encode temporal notions, it is not sufficient to concentrate on any one of the following levels alone: morphology, lexicon, pragmatics, etc. I already explained in chapter 2 that at the sentence level the expression of temporal properties is regularly based on the interaction between tense and aspect marking, the lexical content of the verb and its arguments, contextual and situational knowledge and the semantic and structural properties of temporal adverbials. In all languages, the two basic modes of linguistic temporal reference are lexis and morphology with discourse means as the implicit guiding mechanism. It is also generally attested that learners first mark temporal reference lexically before proceeding to a gradual and often slow acquisition of the morphological devices (Dietrich et al. 1994, Meisel 1987, Giacolone-Ramat 1992, Skiba & Dittmar 1992; see section 4.2.1). Therefore, I decided to divide the acquisition route into two major stages: (1) the lexical stage (temporal adverbials and connectives) and (2) the morphological stage (inflection and auxiliaries). Note that these are only formal characteristics of the stages and that the terms “lexical” and “morphological” do not say anything about the temporal notions which can be expressed.

This chapter is concerned mainly with the lexical stage; temporal adverbials, temporal prepositional phrases, particles, and connectives. Henceforth, I will refer to all the lexical means as “tadvs” and only when necessary will I make a terminological distinction. To give an impression of what this lexical stage looks like, I show the following example (6.1), which comes from Ergün, a Turkish learner of Dutch. It shows how beginning L2 speakers manage to anchor events in time by means of lexical items such as calendric-clock descriptions half negen ‘half past eight’, deictic reference vandaag ‘today’ vanmorgen ‘this morning’, direct speech, anaphoric dan ‘after’, and special discourse organisation principles:
(6.1) vandaag hoofdpijn
today headache
ik ga niet naar fabriek
I go not to factory
ik vanmorgen
I this morning
half negen ik bellen
half past eight I phone
"ja ik komt niet vandaag"
"yes I come not today"
"ik ben ziek"
"I am sick"
vandaagavond zes uur
today evening six o'clock
ik heb slapen
I have sleep
dan klein beetje lopen
then a little bit walk
dan ik gaan naar cafee of zo
then I go to pub or so

For a first cross-linguistic inventory and classification of all lexical means used by each individual learner, I decided to carry out a form-to-function analysis over the entire data-set. This implies that I conducted automatic search analyses looking for tadvs over all the data available for the main informants (see section 5.2): Fatima and Mohamed (Morrocan learners of Dutch), Mahmut and Ergun (Turkish learners of Dutch), and Zahra and Abdessamad (Morrocan Learners of French).

In addition, I carried out function-to-form analyses over all the personal narrative data available of the same informants (see table 5.5, second column) to catch all the non-standard and non-explicit means of expressing temporality also. In section 5.1.1., I formulated the research questions for the lexical stage as follows:

(a) What are the semantics of each temporal adverbial at each stage of each learner variety?
(b) What is the structural embedding of tadvs, that is, (a) the position of tadvs in the utterance, and (b) the interaction between the tadvs and other elements in the utterance?

This implies that for each tadv found in the data, I coded the semantic and structural properties. In section 2.2.2 I described how tadvs can specify the external and internal properties of time spans. This is what I coded as semantic properties. In the same section (2.2.2) I argued also that which of the two relevant time spans, the time talked about TT or the time of the event/situation Tsit, is specified depends on the structural embedding of tadvs in the utterance. Therefore, I coded also the position of the tadvs in the utterance. In section 2.2.3 I gave some examples to show the complex interaction between position and the function of a tadv in fully-fledged languages like English and Dutch. Temporal adverbials have scope properties and, depending on their position in the utterance and the scope properties of the target language, they have scope over the TT or over the Tsit. The question is how learners approach this acquisition task.

The stage of marking temporal reference by lexical explicit and/or implicit discourse pragmatic means (and not by morphosyntactic means) is typical of a learner’s production at the level of the so-called basic variety (cf. Klein & Perdue 1997; see also section 4.2.1). At this level, the basic repertoire can be expanded in two ways; either the learner increases this repertoire by acquiring more tadvs and
other lexical means and he handles his repertoire in a more effective way, or he
develops morphosyntactic means to mark tense and aspect. Previous research
(Dietrich et al. 1995, von Stutterheim 1986) has shown that many learners stagnate
or fossilize (that is they do not develop morpho-syntactic means) at this level.
Fossilization occurs, it is claimed, because of the possibilities the basic variety
provides for expressing a whole range of temporal notions by a clever handling
of lexical temporal adverbials and discourse ordering principles such as the
principle of natural order (PNO, see section 2.3.1). In this chapter, I show how
the basic repertoire can be expanded by a clever management of the semantic and
structural properties of tadvs. The crucial question is then “What can tadvs
express and what can they not express?” or “Can tadvs compensate for functions
of grammatical tense and aspect marking?” Both questions are triggered by the
general motor factor of the present study “Why do learners develop grammatical
tense and aspect marking at all?” (see chapter 1).

This chapter is organized as follows: First, an illustration is given of the procedure
for the analysis of the lexical stage in the learner data (6.1), which consists of a
combination of a concordance (form-function) and a discourse-oriented
(function-form) analysis. In section 6.2, an overview of the results of these
analyses is given and I define the basic lexical repertoire for expressing the external
and internal properties of time spans. In section 6.3, it is argued that a clever use of
tadvs can block the emergence of grammatical tense and aspect marking in the
acquisition of a second language. In this last section two potentially blocking
learner strategies are discussed: the lexical composition of tadvs (6.3.1) and the
structural embedding of tadvs (6.3.2-6.3.4).

6.1 The procedure of data-analysis

Two complementary types of analyses of time reference were carried out. Both
types of analysis produced different sources of information on the acquisition of
temporal reference. I first carried out a form-to-function analysis technique for
looking at explicit means for temporal reference, to which I refer to as the
concordance technique (section 6.1.1). Then, in a discourse analysis, I traced
lexical forms of temporal expression (adverbials and connectives) in personal
narratives and gave them codings on the basis of their semantic and structural
properties in a long stretch of discourse. Finally, in a pure concept-oriented
approach, I looked at how these learners expressed temporal relations, which I
defined on the basis of the three discourse principles mentioned in section 2.3.2.
6.1.1 The concordance analysis

This technique for automatically searching for explicit standard linguistic devices expressing temporal reference (by means of concordance programs) resulted in listings of relevant occurrences of specific temporal forms in a particular verbal context. First of all, I want to emphasize here that this strategy has three important disadvantages. First of all, this strategy does not show us which target language tadvs are not used by the learner (either at a certain stage or not at all). Therefore, it was necessary to base my inquiry of the use of tadvs in learner utterances on existing listings of Dutch and French adverbials as they are given in standard works on the use of the target language; for Dutch this is the ANS (Algemene Nederlandse Spraakkunst by Geerts et al. 1984) and for French I used ‘Le français parlé’ by Blanche-Benveniste (1991). I also used information from earlier research on Dutch tadvs by Janssen (1994) and Oversteegen (1988) and my own intuitions about what words (or combination of words) could be cases of temporal reference in these learner varieties of French and Dutch.

Secondly, because standard linguistic devices for expressing temporal relations in Dutch and French were spotted in the concordances, forms differing from these standard devices remain unincorporated or incorporated in the wrong way. Take, for example:

(6.2)  MO 3.9
       ik   gisteren   dokter   gaan     vanmiddag
       I    yesterday  doctor go this afternoon
       [I went to the doctor yesterday afternoon]

Instead of the standard form gistermiddag, Mahmut uses gisteren vanmiddag, which in Standard Dutch means ‘yesterday this afternoon’. This “composed” deictic adverbial risks being coded as two individual deictic adverbials.

Thirdly, temporal referential functions expressed in the L2 varieties without any overt temporal marking are not “spotted” in the concordance list (see also von Stutterheim 1986: 172). As is illustrated in the next example:

(6.3)  ED 1.3
       Ankara   ik        trouw
 Ankara I marry
       [In Ankara I got married]

Ankara functions here as temporal reference to the past because of shared situational knowledge: the listener knows that Ankara is the place where Mahmut used to live. Therefore, spotting potentially interesting temporal adverbials in the output from word listings of the data will be complemented by analyses of implicit methods of reference to temporality in discourse analyses.
The concordances were based on all nine sessions in all three cycles for the Dutch and French data of the key informants, so that all 27 sessions of all the informants were scanned for potential temporal forms. Because of a conversion of the data to the CHAT-format (MacWhinney 1991; see section 5.4), the utterances appear on separate lines and can be extracted with a flexible amount of context utterances. These extractions of utterances containing a temporal adverbial and six utterances surrounding context (three before the target utterance and three after) yielded the basis for further encoding. On the coding line I coded only the position of the tadv in the utterance because I believe that the semantic properties of these tadvs can only be judged in (still) more context. I coded for each adverbial if it was placed in the position before the agent (POS1), like in example (6.4), or in another position (POS2), like in the examples (6.5) and (6.6). In cases where was no agent mentioned, I did not code the position.

(6.4) FC 2.3
\[\text{gisteren} \quad \text{ik} \quad \text{gaat naar markt}\]
yesterday I go to market
\[\text{[Yesterday I went to the market]}\]

(6.5) ED 2.2
\[\text{ik} \quad \text{gisteren} \quad \text{slapen} \quad \text{hele dag}\]
yesterday sleep whole day
\[\text{[Yesterday I slept the whole day]}\]

(6.6) OD 3.1
\[\text{Ik} \quad \text{slapen} \quad \text{tot drie uur} \quad \text{gisteren}\]
I sleep till three o'clock yesterday
\[\text{[I slept till three o'clock yesterday]}\]

The output files of these automatic analyses functioned later on as reference-files for how one particular temporal adverbial behaved over time (over all sessions) for each individual learner. The development of frequencies over time gave at first instance only a rough idea which (standard) tadvs were explicitly used and how many times at which cycle (see chapter 5) by each learner, and did not give information as to how these tadvs were used to express temporality.

6.1.2 The discourse analysis

The discourse analysis was done by reading through all the personal narrative transcripts line by line, while coding for the expression of external and internal temporal properties by lexical adverbials, connectives, and prepositional phrases (in two weeks) and/or pragmatic discourse means based on situational or contextual knowledge (see section 2.3). This implies that I followed, in the first instance, a form-oriented approach by tracing forms and giving them meanings. For the tadvs (including non-standard ones) I found, I coded: (1) the semantic characteristics of this adverbial in the utterance and (2) the structural embedding of the adverbial.
in the utterance. For (1) this means that I coded first the function of the adverbial (see section 2.2.2) as:

- **TAP:** Positional adverbials (yesterday, in two weeks)
- **TAQ:** Frequent adverbials (three times)
- **TAD:** Adverbials of Duration (during four months)
- **TAC:** Adverbials of Contrast (still, already, again)

As I already explained in section 2.2.2, positional adverbials TAP specify the external temporal relationship between two time spans. The position of the time span to be talked about TT is related to another time span on the time axis (the relatum) which is given in context in an anaphoric (later), deictic (tomorrow), or calendric way (on the 8th of March). The nature of the relatum I coded as follows:

- **AN:** Anaphoric relatum (two weeks later)
- **DE:** Deictic relatum (in two weeks)
- **CA:** Calendric relatum (after July 1967)

To identify all the semantic properties of the tadvs, I also coded for each tadv if the anaphoric, deictic, or calendric relatum was in **AFTER**, **BEFORE**, or **SIMULTANEOUS** (AT) relation to the time talked about TT:

- **AF:** after
- **BE:** before
- **AT:** simultaneous at

For connectives which have by default an anaphoric relatum I also coded the **AFTER**, **BEFORE** or **SIMULTANEOUS** (AT) relation and their position in the utterance. For the pragmatic discourse means, I coded which temporal relation they coded using the same codes as I used for the tadvs and the connectives. To capture the interaction of all the temporal information in each utterance precisely I also coded in the analyses of the personal narratives (see section 2.2.2 and 2.2.3 for more details about how this interaction works):

- the form (a copy) and the position (POS1-POS2) of the auxiliary and the copula
- the form (a copy) and the position (POS1-POS2) of the main verb
- the lexical content of the verb (0-, 1-, 2-state-verbs)

In addition, I conducted a pure concept-oriented discourse analysis of personal narrative data in which I took pre-defined temporal relations to be expressed by the learner as my starting point. These temporal relations (to be expressed) are defined on the basis of the discourse principles I discussed in section 2.3.2: the
6.2 The basic lexical repertoire for temporal reference

In this section, I first discuss the results of the concordance analysis (section 6.2.1) and then the findings of the discourse-analysis (6.2.2).

6.2.1 The initial stage: A concordance analysis

In table 6.1 and 6.2 below, an overview is given of the respective Dutch and French “standard” adverbials found in the concordance output in Cycles 1-3. As I have said before, these frequency analyses are based on standard listings of tadvs (Geerts, et al. 1984 and Blanche-Benveniste 1991). These tables do not include calendric references such as references to Easter, to the name of the month August, the (parts of) days of the week Monday (morning), yesterday (afternoon) or references to a number of days 4 days, months, years, etc. and also no connectives (these are listed in the table of the function-to-form discourse analyses). I carried out separate analyses of the days of the week (Tuesday, Wednesday) and parts of the day (morning, evening). In these analyses I looked for the Dutch words:

- *dag *day, avond evening, nacht night, morgen tomorrow, ochtend morning, weekend, gister yesterday, vandaag today,
  and for French:
- midi afternoon, soir evening, nuit night, matin morning, weekend, hier yesterday, aujourd'hui today, lundi Monday, Tuesday etc. and compositions with these words (e.g. Monday-morning).

It is impossible to give a systematic overview of all the idiosyncratic compositions and truncations the learners made out of these words but I will come back to the results of these analyses later in section 6.3.1. I present in the two tables below the frequencies per cycle in order to see the longitudinal development in the expansion of the minimal repertoire. The first row indicates an initial position (POS1) for the tadvs and the second row a non-initial position (POS2). Table 6.1 lists the Dutch temporal adverbials, Table 6.2 the French temporal adverbials.
Table 6.1 List of Dutch temporal adverbials used by the main informants at each cycle

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Fatima I</th>
<th>Mohamed I</th>
<th>Ergun I</th>
<th>Mahmut I</th>
</tr>
</thead>
<tbody>
<tr>
<td>al</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>'yet'</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>altijd</td>
<td>15</td>
<td>25</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>'always'</td>
<td>11</td>
<td>26</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>eerst</td>
<td>1</td>
<td>-</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>'first'</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>even 'a moment'</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>geleden</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>'ago'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>na</td>
<td>-</td>
<td>3</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>'after'</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>net</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>'just'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>nog</td>
<td>8</td>
<td>22</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>'still'</td>
<td>16</td>
<td>23</td>
<td>79</td>
<td>24</td>
</tr>
<tr>
<td>klaar</td>
<td>5</td>
<td>13</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>'ready'</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>mooit</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>'never'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>nou/nu 'now'</td>
<td>63</td>
<td>10</td>
<td>-16</td>
<td>-</td>
</tr>
<tr>
<td>sinds</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>'since'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>soms</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>'sometimes'</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>straks 'in a minute'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>vaak</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>'often'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>vroeger 'in the past'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>weer</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>'again'</td>
<td>-</td>
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Table 6.2  List of French temporal adverbials used by the main informants at each cycle

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<td>toujours ‘always’</td>
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<td>d’abord ‘first’</td>
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<td>15</td>
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<td>un moment ‘a moment’</td>
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<tr>
<td>encore/toujours ‘still’</td>
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<td>fini/prêt ‘ready’</td>
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<tr>
<td>jamais ‘never’</td>
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<tr>
<td>maintenant ‘now’</td>
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<td>des fois ‘sometimes’</td>
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<td>7</td>
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<td>toute à l’heure ‘in a minute’</td>
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<td>souvent ‘often’</td>
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<tr>
<td>avant ‘in the past’</td>
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<td>12</td>
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<td></td>
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<tr>
<td>de nouveau/encore ‘again’</td>
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</table>
Although table 6.1 and table 6.2 show a variable and incomplete set of tadvs used by the learners of Dutch and French, it is possible to give some preliminary remarks on these frequencies and positions:

- a large number of the learner forms of the Dutch tadvs, *nuw* nu/nu ‘now’ and even ‘for a moment’ occur, in contrast to their French equivalents;
- a large (and increasing) amount of the forms of the Dutch and French tadvs, *altijd, toujours* ‘always’ and *nog, encore* ‘still’; change in their position more and more towards the non-initial position (Pos 2) in Cycle 3;
- a very small number of *vroeger, vaak, and sinds* occur;
- for Mohamed a large number of *eerst* occur;
- there is a great difference in frequency for *geleden* between the Turkish (a lot) and the Moroccan informants (none) of Dutch;
- more tokens of the French tadv for ‘before’ *avant* and ‘often’ *souvent* occur then for their Dutch equivalents;
- in general, more tadvs are used in the Dutch data than in the French data.

These concordance analyses offer a cross-linguistic comparative inventory overview of all tadvs used at different levels of acquisition and their position. However, a reasonable study of the way in which temporality is expressed and how this develops over time cannot be satisfied by counting the number of adverbials. The fact that many tadvs are attested does not say anything about the learner’s ability to express temporality (nor does the ratio of, for example, simple past forms). In order to decide on this ability, we must know what the speaker wants to express by this and other means. Moreover, the functioning of learner varieties is always based on a continuous interaction between what is said in words and what is given in context. This asks for a detailed analysis at the discourse level.

### 6.2.2 Results from the discourse-oriented analysis

In order to capture the expressive power of these adverbials, I had to carry out a more detailed analysis at the discourse level on a selected part of the data. Therefore, all the personal narratives which were available for each cycle were selected for each informant (see chapter 5, table 5.5, second column). It was thus possible to look at data from a discourse-oriented perspective and to investigate how L2 learners establish the temporal frame in a series of utterances. In addition, these personal narratives were used to look for phenomena which might possibly have been overlooked in the study of concordances.

The discourse-oriented analysis was performed utterance per utterance and involved two parts. First, I coded in a form-oriented analysis the explicit lexical means (temporal adverbials and connectives) as described in section 6.1. I also coded the lexical aspect type of the main verbs including their arguments (0,1,2-states) and I copied the main verb forms on the coding line and gave them a
POS1 (before the agent) or POS2 code (other position). If there was an auxiliary or copula-like verbal form then I also copied this form on the coding line and gave it a POS1 or POS2 code. All these information bits on the local utterance level (and their interaction) are important parts of the temporal information of the utterance.

Secondly, following a pure concept-oriented approach, I used the Quaestio-model as described in section 2.3.2 as the analytic framework (cf. Klein & von Stutterheim 1987). I repeat here the main principles of this discourse model rather briefly. The quaestio determines the structure of the text which answers it in different ways. It defines the partitioning into main and side structures, the way in which the information flows from one utterance to the next (“referential movement”), the topic-focus structure of all main structure utterances, etc. In the case of a personal narrative, as we are dealing with here, the quaestio answered by the discourse is generally assumed to be “What happened next (to you)?”. This leads to reference to past time and the first person protagonist in the topic component and reference to events in the focus component. This distribution of information is only found in utterances that directly answer the discourse quaestio (i.e., the main structure of the text). Klein and von Stutterheim (1987) give two conditions which constrain the referential movement, especially with respect to temporality, and which define the topic-focus-structure of each utterance. First, the focus condition which says that each utterance specifies an event whose Tst falls into the topic time of that utterance (this entails a default perfective aspect; TT ≥ Tst). The event specification, normally done by the verb, constitutes the focus of the utterance. Second, the topic condition says that the topic time of the first utterance is either introduced by a positional temporal adverb or follows from situational context. The TT of all subsequent utterances of the main structure is after (Dietrich et al. 1995: 26).

The topic and the focus condition are default principles which constrain the TT-to-TT-linkages between utterances (subTT1 > sub TT2) and the Tst-TT-linkage within utterances (TT1 includes Tst1). I added then a third principle, the Global Topic Time-principle, which first defines for each TT in a set of related utterances (or discourse episode) the relation between TT and TU. The location of TT relative to TU in a set of related utterances (or discourse episode) can be explicitly marked by a positional tadv in the first utterance of an episode or is based on situational context: the personal experience is asserted for the past, ‘yesterday’, for example, TT < TU. The global temporal frame which is thus set is then implicitly maintained over subsequent utterances, unless marked otherwise.

These three discourse conditions imply that in a personal narrative type of discourse a particular type of temporal information is already given “by default”: the global TT to TU relation is past (past personal experiences) and the anaphoric linkage of utterances in the main structure is established by a linking of by default right-bounded (perfective) events which are asserted for TTs in a chronological row (PNO). It is interesting then to code in the discourse analyses the possible
deviations of these default discourse principles, because the deviations must be marked explicitly, given the fact that they can not be inferred from a situational or discourse context.

Thus, I coded first on the basis of inferences of situational (like references to places where the learner used to live, see example 6.3) and contextual knowledge (as described in the three principles above) for each utterance:

(a) the temporal relation between TT and TU as BEFORE (PAST), AFTER (FUTURE), or AT (PRESENT);
(b) the TT-linking between utterances; inferred on a presumed Principle of Natural Order in personal narratives this gives TT3 after TT2 after TT1;
(c) the temporal relation between the TT and Tsit in each utterance as BEFORE (PROSPECTIVE), AFTER (PERFECT) or AT (IMPERFECTIVE OR PERFECTIVE).

I want to emphasize here that I gave these codings independently of the implicit, lexical, or morphological ways in which they were coded. These are codings to set up the “abstract” temporal frame of a stretch of discourse. In analysing these data and their codings, I looked especially at deviations from the default discourse principles and checked if and how they were marked: that is to say, if and how learners mark that (a) the global temporal framework changes, (b) the events are not told in their chronological order, and (c) the events are not told from the default perfective aspectual viewpoint in narratives but from a perfect, prospective, or imperfective viewpoint.¹

The marking of these deviations is done by a heterogeneous set of lexical adverbials, connectives, and emergent morphological markings which I will refer to again in more detail in the next chapters. Furthermore, it is important that the lexical aspect type of the event-descriptions are coded too, because, as I have said in section 4.1.3 learners, can use the inherent temporal properties of verbs (in combination with their arguments) as markers of the necessary boundedness (perfective)/unboundedness (imperfective) distinction of events in discourse.

I present the outcome of these analyses in a rather “abstract” overview of developmental changes in linguistic forms for temporal functions in tables 6.3a and 6.3b below. The numbers between angle brackets indicate the first cycle in which a form emerges. In the next section, I discuss these function-form mappings for the expression of external and internal temporal characteristics.

¹ Especially these last distinctions in (c) are often difficult to catch in spontaneous personal narratives because one does not know the aspectual viewpoint the speaker wants to give to the description of a particular event. Therefore, for the emergent morphological stage of analysis, I added more controlled data from retellings of the same film, Modern Times(1936).
Table 6.3a Overview of explicit lexical reference to external and internal temporal relationships in the personal narrative data of all the main Dutch informants.

<table>
<thead>
<tr>
<th>POSITIONAL ADVERBIALS</th>
<th>ERGUN</th>
<th>MAHmut</th>
<th>FATmA</th>
<th>MOHAMED</th>
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<td>neutral(1)</td>
<td>neutral(1)</td>
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<td>gisteren(2)</td>
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<td>die_voor(1)</td>
<td>gisteren(2)</td>
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<td>dinsdag(3)</td>
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<td>-geleden(3)</td>
<td>-terug(3)</td>
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<td>eerst(3)</td>
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</tbody>
</table>

| FREQUENT. ADVERBIALS  | altijd(1) | altijd(1) | altijd(1) | altijd(1) |
|                       | nooit(1) | nooit(1) | nooit(1) | nooit(1) |
|                       | X_keer(1) | X_per(1) | X_per(1) | X_per(1) |
|                       | X_keer(1) | X_per(1) | X_per(1) | X_per(1) |
|                       | veel(1) | veel(1) | veel(1) | veel(1) |
|                       | X_per(1) | X_per(1) | X_per(1) | X_per(1) |
|                       | X_per(1) | X_per(1) | X_per(1) | X_per(1) |
|                       | elke(2) | elke(2) | elke(2) | elke(2) |

| DURAT. ADVERBIALS     | X_neutral(1) | X_neutral(1) | X_neutral(1) | X_neutral(1) |
|                       | tot_(1) | tot_(1) | tot_(3) | voor_(2) |
|                       | in_(2) | in_(2) | in_(3) | in_(2) |
|                       | over_(2) | over_(2) | over_(2) | over_(2) |

| CONTRAST. ADVERBIALS  | nog_niet(1) | nog_niet(1) | nog(steds)(1) | nog(steds)(1) |
|                       | net(2) | net(2) | nog_niet(1) | nog_niet(1) |
|                       | niet meer(1) | niet meer(1) | niet meer(1) | niet meer(1) |

(1)= cycle 1, (2)= cycle 2, (3)= cycle 3
neutral= dates, lexical specification, weekdays, names of month, seasons, number of weeks, months, years etc. (X number of amount = neutral)
Table 6.3b Overview of explicit lexical reference to external and internal temporal relationships in the personal narrative data of all the French informants.

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<th>ABDESSAMAD</th>
<th>ZAHRA</th>
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<td>_dernier(3)</td>
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<td>même_temps(1)</td>
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<td><strong>FREQUENT. ADVERBIALS</strong></td>
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<td><strong>CONTRAST ADVERBIALS</strong></td>
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<td>(pas encore(3)</td>
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<td>toujours(2)</td>
<td>de déjà(3)</td>
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<td>encore(2)</td>
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<td>déjà(2)</td>
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(1)= cycle 1, (2)= cycle 2, (3)= cycle 3
neutral: dates, lexical specification, weekdays, names of months, seasons, number of weeks, month, years etc. (X number of amount = neutral)
6.2.3 The marking of external and internal temporal characteristics

External temporal relations

The basic repertoire for marking external temporal relations consists of a neutral under-specified set of calendric type of tadvts. This set is the same for all the main informants (as we can see in table 6.3 above) and consists of:

(a) Pure calendric absolute specifications: *augustus 1982* ‘August 1982’

(6.7) ED 2.1
daar ook werk over de jaar beginnen twee en tachtig de augustus 
there too work over the year start two and eighty the August 
[there I started also to work after one year, in August '82]

(b) Lexical specifications which on the basis of situational context establish a temporal relationship. In example (6.8), Ankara refers to the past:

(6.8) MA 1.3
ik ankara niet school gaan ramadan
I ankara not school go ramadan 
[In Ankara I went not to school during the Ramadan]

(6.9) ZA 2.1
jouer les cartes avec les enfants l’age quatorze ans
play the cards with the children the age fourteen years 
[I played card-games with the children when I was fourteen years old]

(c) Days of the week, names of the months, or seasons with an implicit simultaneous AT relation to the relatum. In the earliest stages, learners use these means without the additional information which identifies if it is ‘last’ or ‘next’ Sunday, August which is talked about or if it is ‘every’ Sunday, August etc. Later in the acquisition process they do use this additional information:

(6.10) ED 2.6
INT: het begint 25 September?
it begins the 25th of September?
ED: ja zondag deze week zondag
yes Sunday this week Sunday

(d) Number of weeks, months, days, years, without the additional necessary information which indicates if it is in two weeks or three weeks ago etc. Learners always use the moment of speech as an anchoring point. This under-specification often makes it difficult to decide whether the tadv has a positional or a durational function. In order to decide whether it means two weeks ago or for two months, these prepositions or particles are needed:
(6.11) ZA 1.6
INT: *vous travaillez quand?*
ZA: *trois mois*

(6.12) ED 2.4
*mijn broer gaat naar turkije vakantie gaan naar*
my brother goes to turkey vacation goes to
*nou bijna twee maand*
now almost two months
*alt terug weet ik niet*
when back I don’t know
*misschien tien dagen vijftien dagen*
maybe ten days fifteen days
*[my brother went to turkey almost two months ago, when he will be back I don’t know, maybe in ten or fifteen days]*

(6.13) ED 2.9
INT: *je advocaat ben je daar naar toe gegaan?*
did you go to your lawyer?
ED: *ja bijna een jaar*
yes, almost a year

(c) Basic adverbials to mark each of the basic anaphoric relations:

anaphoric AFTER: *en dan, et après/ alors ‘and then’*
anaphoric BEFORE: *eerst, avant ‘first’*
anaphoric AT: *dan ‘then’, même-temps ‘same time’.*

The marking of internal temporal features

The minimal basic repertoire of marking the duration of time-spans is completed by the mentioning of numbers of minutes, hours, days, weeks, months, years, etc. This is done without the necessary prepositions and particles like *tijdens, gedurende, pendant (‘for’) and without explicit left or right (beginning and end) boundary markers as *tot, vanaf, jusqu’à, depuis (‘since, till’).*

(6.14) FA 1.3
*ik een jaar schrijf*
I one year write
*I wrote (letters) during one year*

(6.15) ZA 1.6
*quatre mois moi toujours fatigue*
four months I always tired
*[During four months I was always tired]*

Furthermore, there is one adverbial of frequency, in Dutch *altijd* and in French its equivalent *toujours,* which is also used to express a generic/habitual and iterative meaning (see section 6.4) in contrast to one-case readings:
With respect to tadv's of contrast, the high number of uses of *nog* and *encore* (see table 6.1 and 6.2 above) is very remarkable although it is often stated (cf. Dietrich et al. 1995: 16) that because of the cognitive complexity of this word it, will be acquired rather late.

In the next section, I describe how this basic lexical repertoire is expanded in the later stages of acquisition and how learners optimize the semantic and structural properties of tadv's. I show that a clever management of this lexical set of linguistic means is considered to be a possible blocking factor for further morphological development.

6.3 The expansion of the basic repertoire for temporal reference

The basic repertoire of linguistic means described in the previous section allows the specification of temporal relations and the indication of the duration, the frequency, and the contrast between time-spans. What more do you need? As Dietrich et al. say (1995: 36):

"This system (The Basic Variety) is very simple (compared to what we found in all source and target languages) but extremely versatile. It allows an easy expression of when what happens, or is the case -provided that:

a) there are enough adverbials and
b) it is cleverly managed. Therefore, one way the learner has of improving his expressive power is simply to enrich his vocabulary, especially by adding temporal adverbials, and to perfect his technique on this instrument. And about one third of the 40 learners whose acquisition was investigated (in six different pairs of Source and Target languages) do exactly this: they do not go beyond the basic variety, but steadily improve it in these two respects -more words, better practice, no unnecessary complications."

Three (Mohamed, Ergun, and Abdessamad) of the six main informants of the present study developed/acquired a certain degree of verb-related morphological differentiation, the other three did not. The latter group did not go beyond "the basic variety", as it is called by Klein and Perdue (1992). As I have said in the introduction to this chapter, previous research (Dietrich et al. 1995, von Stutterheim 1986) has shown that many learners stagnate or fossilize (that is, they do not develop morphosyntactic means) at this level. The reason for the
fossilization of the learner variety at the basic variety stage is that the basic variety allows the expression with a whole range of temporal notions by a clever handling of lexical temporal adverbials and discourse ordering principles such as the principle of natural order (PNO, see section 2.3.1). This is indeed the impression that we get when we look at early-or late but fossilized-learner varieties. Despite the lack of any verb inflection, these speakers typically manage to tell quite complex personal narratives with a dense web of temporal relations, as we have seen in the example (6.1) above. In this section, I show how the basic repertoire can be expanded by a clever management of the semantic and structural properties of tadvs and if this expansion must be considered as a serious blocking factor for the development of morphological means of temporal reference. The fundamental questions are:

(a) Can tadvs “compensate” for missing tense notions like reference to past, present and future which are compulsorily morphologically marked in the tense-prominent target languages French and Dutch?
(b) Which tadvs are used to express aspectual notions such as imperfectivity and perfectivity which are fulfilled in the source languages of the Turkish and Moroccan learners by a whole range of verbal affixes?

I will discuss here two manipulations of two different kinds of basic tadvs. Both strategies are productive and successful. At the same time, they may block the emergence of tense and aspect marking. The first strategy is related to a clever handling of semantic aspects of positional tadvs by making use of lexical composition. The second is related to a clever handling of structural properties by making use of different embeddings of two very productive adverbials, i.e., 'always' and 'still', for expressing different temporal notions.

6.3.1 Lexical composition of basic deictic tadvs

The first strategy relates to the semantic/lexical composition of basic tadvs. Learners of both target languages 'cleverly handle' specific tadvs which are essential for establishing temporal orientation and which typically belong to the basic variety of all learners: the names of (parts of) the day. As previous studies on temporality also showed (see section 4.2.1), deictic tadvs emerge very early in the temporal system of L2 learners. The here-and-now functions as a kind of default “origo” from which the speaker starts to refer to past, present, or future (parts of) days. Therefore, lexical expressions such as the Dutch avond ‘evening’, nacht ‘night’, morgen ‘tomorrow’, ochtend ‘morning’, weekend, gister ‘yesterday’, vandaag ‘today’, and the French midi ‘afternoon’, soir ‘evening’, nuit ‘night’, matin ‘morning’, weekend ‘weekend’, hier ‘yesterday’, aujourd’hui ‘today’, lundi ‘Monday’, etc., are essential in the basic learner variety. As such, referring to the central theme of this chapter, these adverbials can fulfill functions of tense marking.
From a cross-linguistic perspective, it is interesting to see how learners of French and Dutch try to acquire target language means for expressing the difference between, for example, the deictic forms vanavond/ce soir ‘this evening’ and anaphoric or generic forms like ‘s-avonds/le soir ‘evenings/in the evening’. The way in which these temporal referential functions are clustered differ subtly from language to language. In French, demonstratives such as ce matin ‘this morning’ are used for deictic expressions and anaphoric articles like le matin ‘mornings’ are used for anaphoric expressions. In Dutch, the prefix ‘van’ as in vanavond ‘this evening’ and vanmorgen ‘this morning’ is used for deictic reference, and for anaphoric and generic reference the affix combination ‘s-lexeme-s woensdags, savonds is used.

Besides trying to use the right form of adverbials, the learner has another problem. Adverbials such as le soir ‘evenings/at night’, ‘in the evening’ and smorgens ‘mornings’, ‘in the morning’ can locate some morning with respect to an anaphoric “origo”, as in

(6.18)  Wednesday I did a lot.
In the morning I went to the market and...
’s Morgens ben ik naar de markt gegaan
Le matin je suis allée au marché

However they can also have a habitual reading (aspectual notion) in quantifying over a lot of mornings:

(6.19)  ’s Morgens ging ik (altijd) naar de markt
Le matin j’allais (toujours) au marché
In the morning I (always) went to the market

In fact, as we can see in the examples (6.18) and (6.19), whether le matin or ’s morgens have an anaphoric or habitual sense in Dutch and in French depends on the entire meaning of the utterances (normally on the combination of aspect marking and the tady). The learner who has not yet acquired aspect marking has to find another solution for this ambiguity problem. Learners seem to overcome these acquisition problems by making clever use of transparent compositional expressions like altijd vanavond ‘always_evening’, altijd vanmorgen ‘always this morning’, toujours ce soir, ‘always_this_evening’ for expressing the habitual meaning. Finally, to solve the problem of the subtle variations in forms of anaphoric and deictic expressions, they use compositions such as vandaag_avond, aujourd’hui-soir ‘today-evening’ or donderdag_vanmorgen ‘Thursday_this morning’.
6.3.2 The structural embedding of tadvs

The second strategy relates to the distributional management of tadvs and clearly shows how the expressive power of a simple tadv repertoire can be increased. A first very general quantitative analysis of all our Dutch and French data shows that two adverbials occur with an extremely high frequency: altijd/toujours ‘always’, and nog/encore ‘still’ (see table 6.1 and 6.2 above). More interesting is the fact that further analysis revealed that the slowest learners (Mahmut, Fatima, and Zahra, who do not develop morphological means) manifest the highest frequencies on both these adverbials. Furthermore, as can be seen in the same tables, these same informants show a dramatic increase in the use of nog/encore in the third cycle. Nog/encore is considered “cognitively complex” and therefore is acquired late (Dietrich et al. 1995, 1995). However, once acquired it seems to be very productive.

I show in the next two sections how different embeddings of altijd/toujours (6.3.3) and nog/encore (6.3.4) in the utterance organisation lead to different interactions of these adverbials with other elements in the utterance, such as negation particles, definite/indefinite articles, tense and aspect and the lexical content of the predicate and its arguments (0-, 1-, or 2-states). Different interactions give different readings and from these data it seems that all learners in all stages are sensitive to the same general positional constraints. This I conclude on the basis of the codings of the structural properties of these adverbials, which show the same distributional systems for the same tadvs: tadvs which specify the topic time TT are placed within the topic component of the utterance and tadvs which specify the time of situation TT are placed within the focus component.

As I have outlined in chapter 2 (section 2.2.3), the interaction of a tadv and the remainder of the utterance is very complex and may pose severe learning difficulties for adult language learners. Depending on the scope properties of a language, the tadv has - at different positions - either the time talked about TT or the time of situation in its scope. Nevertheless, the data demonstrate that the learners in the different combinations of source and target languages studied here develop a clear and simple distributional system independently of the target language (syntactic) properties consisting of a basic tadv set to specify either topic times TT or situation times Tsit.

As I said above in section 6.1, in this study two complementary types of analyses were carried out to examine different ways of referring to time. The first type, a concordance analysis, provided an overview of the “standard” explicit lexical linguistic devices for expressing temporality in all nine sessions, as presented in table 6.1 and 6.2. The concordance technique resulted in listings of relevant occurrences of specific temporal forms in a particular verbal context.

A typical example of a learner using basic positional tadvs within the topic component of an utterance and thereby specifying the topic time of the utterance, can be found in (6.20).
But how do we know that it is the topic time TT and not the situation time Tsit which is specified by the utterance-initial *gisteren* 'yesterday'? In basic learner varieties, the relation within an utterance between Tsit and TT is by default transparent. Tsit and TT are assumed to be simultaneous (see also the focus condition in section 2.3.2 which I repeated above in section 6.2.2). Learners are not yet able to dissociate the TT and Tsit (see section 2.2.4). If TT and Tsit in basic learner varieties are simultaneous, any tadv could be said to specify both. How, then, can I obtain evidence for my claim that utterance initial tadvs are indeed lexical specifications of TT instead of Tsit?

An important argument is the distribution of tadvs in cases where an utterance contains two tadvs. This is the case when adult learners place lexical specifications of TTs in the initial position and specifications of Tsit in a non-initial position close to the VP, the event-specification itself:

(6.21)  1.2 HK  
\[maandag \ is \ opstaan \ negen \ uur\]  
[On Monday I have to get up at nine o'clock]

Decisive evidence is provided by the distributional behaviour of the most frequently used adverbial for all learners at all stages: *always* (Dutch *altijd*, French *toujours*). The analysis of many early utterances containing the adverbial *always* will show how different embeddings of *always* invoke different imperfective-like readings, depending on whether topic times or situation times are specified/quantified by this adverbial. It is important to note here that only in learner varieties is it possible to specify (all) TTs in the initial position and specifications of Tsit in a non-initial position close to the VP, the event-specification itself.

### 6.3.3 The embedding of always

The temporal notions which can be obtained by different interactions of *always* with other elements in the utterance have a purely imperfective character, that is, in the (lexical aspect) imperfective meaning of “iterative, habitual” (see Binnick 1991, who describes these aspectual distinctions in the literature). Note that notions such as habituality, iterativity, and continuity etc., do not have anything to do with a temporal ordering between the topic time TT and the situation time
I am aware of the fact that the formal representations of these data do not conform to formal semantic representations but they will suffice for the present purposes. Furthermore, I only present the target utterance containing the adverbial always without the surrounding context necessary for the right interpretation. The coding of the sessions permit the critical reader to look up the source files in the ESF database, available at the Max Planck Institute in Nijmegen, The Netherlands.

Extensive analyses of the semantic and structural properties of always in the output files of the concordance analyses in combination with the discourse analysis give a three-way classification of relevant meanings of always in terms of habituality, iterativity, and continuity.

The first notion I discuss is habituality. This notion is established by the utterance-initial position of the tadv always, which has, at this position, the total utterance including the topic time TT in its scope.

Habituality

\[
\text{Habituality} = \left[ \left( \forall t \in \text{TT} \right) \text{Topic component} \right] \left[ \left( \text{TSit} \right) \text{Focus event} \right]
\]

(6.22) OD 1.2

\[
\text{always} \quad \text{I} \quad \text{awake} \quad \text{at eight o’clock}
\]

[I am always -each morning- awake at eight o’clock]

(6.23) AS 3.4

\[
\text{always} \quad \text{I} \quad \text{make} \quad \text{the big “pikura”}
\]

[Each winter I get a “big” anti-influenza vaccination]

In (6.22) and (6.23), the situation time of to be awake at eight o’clock and to get a vaccination is hooked up to a series of topic times (quantified by the adverb always = all time spans), by which the utterance acquires a typical imperfective meaning of habituality. So, for all time spans which are part of the topic time (not morphologically marked on the verb) it is true/holds that in (6.22) Mahmut is/was/will be awake at eight o’clock. As in “longtemps je me suis couchée de...”
bonne heure” ‘for a long time I went to bed early’, the first sentence of “A la recherche du temps perdu” by Marcel Proust (see the introduction chapter), we see in (6.22) how an adverb in the topic constituent can indicate a very long time span in which something happens habitually. As Comrie (1984: 27) puts it:

“Sentences with habitual aspectual meaning refer not to a sequence of situations recurring at intervals, but rather to a habit, a characteristic situation that holds all the time”.

This definition shows how difficult it is to distinguish between habituality, continuity and iterativity, notions of lexical aspect which can all be made explicit by the use of the same temporal adverbial, always. Comrie continues:

“In discussing habituality and continuousness, it is easiest to start by giving a positive definition of habituality, leaving continuousness to be defined negatively as imperfectivity that is not habituality (...). In some discussions of habituality, it is assumed that habituality is essentially the same as iterativity, i.e. the repetition of a situation, the successive occurrence of several instances of the given situation. The feature that is common to all habituals, whether or not they are also iterative, is that they describe a situation which is characteristic of an extended period of time, so extend in fact that the situation referred to is not viewed as an incidental property of the moment but, precisely, as a characteristic feature of a whole period”.

In the following examples of expressions of iterativity, it can be seen how learners of a second language manage to express the distinction between habituality and iterativity.

**ITERATIVITY**

[["specification" t (t € TT) Topic component] [all t (t € TSit) Focus: 2-state]]

(6.24) **ED 2.2**

[t gisteren-jaar ik [s altijd ongeluk gedaan]

yesterday-year I always accident made

[Last year I had accidents, again and again]

(6.25) **FA 2.6**

[t vandaag ik] [s altijd weg met auto]

today I always here-and-there with car

[Today I had to go away by car, again and again]

(6.26) **AS 2.7**

[avant / ilmadi toujours]

before he-me-has said always

“pourquoi tu veni ici ?”

“why you came here?”

[before he said always to me "why did you came here"]
In order to “operate” on the situation itself, that is to say, to denote the intensity or quantity of the situation time, the adverbial is placed in a non-initial position. This is illustrated by examples (6.24-6.27). These utterance structures typically denote a complex TSit (consisting of separate phases of the situation, quantified by always) linked to one topic time (gisteren-jaar, vandaag, avant, hier), which yields an iterative reading. This is exactly the opposite of (6.22) and (6.23), which yields a habitual aspect by linking one situation time to a series of topic times (quantified by always).

The last lexical aspect notion I want to discuss here is the notion of continuity. Because altijd/toujours can be interpreted as indicating both the duration (all the time) of an event and the frequency of occurrence of an event, it is often difficult to choose between a durational and a frequency reading. As can be seen in the examples below, the reading depends on the lexical content of the predicate and its arguments (which may or may not be telic, i.e., include two states). In contrast with examples (6.24-6.27), the lexical content of utterances (6.28-6.33) includes only one state (to drive, to be ill, to sleep, to be tired, to be wet are all atelic, 1-state events) leading to a continuity interpretation of always.

**CONTINUITY**

["specification" t (t \(\in\) TT)Topic component] [all t (t\(\in\)TSit) Focus: atelic event]]

(6.28) ED 3.2
*auto vakantie^ beetje moeilijk*  
car holiday^ little bit difficult  
\([/t\text{drie dagen ik}]/ [/t\text{altijd auto rijen}]*
three days I always car drive  
[To go on holiday by car is difficult because for three days you do nothing but drive]*

(6.29) MK 2.1
\([/t\text{tot volgend jaar}]/ [/t\text{ik altijd zieik}]*
till next year I always ill  
[till next year I'll be ill all the time]*

(6.30) MO 2.1
\([/t\text{vannacht ik}]/ [/t\text{geen slapen}]*
tonight I no sleep  
[Last night I did not sleep but she slept all the time]*
Since it is sometimes difficult to interpret what language learners mean, it can only be the integration of linguistic meaning proper and other sources of information (for example, previous utterances, situational perception, general world knowledge) that makes it possible to construct (for the speaker) and to reconstruct (for the listener and the researcher) semantic representations. So, for the interpretation of the examples above (that is, to determine in which way the scope of always goes), I used a lot of contextual information which for reasons of space, is not all given here (the ESF database is accessible for everyone).

It is worth pointing out that no occurrences were found in the basic stage of acquisition where always in utterance-initial position was used to specify situation times in order to achieve a continuous or iterative reading. An utterance like (6.28)* and (6.32)* never occurred in these learner varieties.

To sum up, learners at the basic variety level use tadvs in both the topic and the focus component of the utterance, producing some lexical aspectual contrasts. The adverb in topic has scope, to the right, over the whole utterance, while the adverb in focus affects just the focus. I have found the same embedding properties for the tadvs encore and nog, which took a longer time to implement than the equivalents of ‘always’. However, once these adverbs are acquired, they become very productive and functions as an alternative (grammatical) aspect marker for the expression of the imperfective aspectual viewpoint.
6.3.4 Different temporal notions expressed by clever management of ‘still’

This same distributional pattern, i.e., initial position to specify topic times, closeness to the verb, and its arguments to specify event times, is also found with the use of nog/encore/toujours in learner data, as is illustrated by examples (6.34a) and (6.34b):

(6.34) a. AS 2.1

\[\text{encore } \text{je } \text{veux } \text{aller au maroc}\]

still I want to go to morocco

[it is still the case that I want to go to Morocco]

In the second cycle of data collection, Abdessamad actually went to Morocco and afterwards (in session 2.6) he says

b. AS 2.6

\[\text{un petit peu d’argent et je descends au maroc encore}\]

a little bit of money and I go to maroc again

[I have to earn a little bit more money and then I can go to Morocco again]

The semantic representations of these utterances look like this:

a. \[\text{[ encore } t \ (t \subset TT) \text{ Topic component]} \text{ [(Tsit) Focus component]}\]

b. \[\text{[“specification” t } (t \subset TT) \text{ Topic component]} \text{ [encore } t \ (t \subset Tsit) \text{ Focus component]}\]

An interpretation of (6.34a) could be that it is still the case that at this moment TT (topic time TT is present) - in comparison to another earlier TT such as three minutes ago or five years ago - he wants to go to Morocco. Here the topic time TT is prolonged relative to an earlier topic time. This is in contrast to (6.34b) where encore only operates on the time of situation Tsit <descendre au Maroc>. In example (6.34b), it is clear that the time of situation is repeated (and not prolonged) because of the lexical content of the time of situation, which includes 2 states. With a 1-state lexical content as in (6.35) below, the time of situation will be prolonged in a continuous way:

(6.35) ZA 3.2

\[\text{moi } \text{veux } \text{rester maison encore}\]

I want stay home still

[I want to stay longer at home]

In the literature on formal semantics, many attempts have been made to present an unified treatment or integrated analysis of all the possible meanings of the polysemous still (often in combination with already). It has often been postulated that still has something to do with expectations, as in:
It is very difficult indeed to give a cross-linguistic description of the semantical aspects of *still*, but there are good reasons to believe that learners struggling with the semantics and position of this adverbial (the lexical and the structural problem) may offer another perspective to a potential basic core meaning and/or position of *still*. In addition to the analyses of the structural management of *always*, these learner data provide a systematic contribution to the functioning of scope elements in the target language. I found general constraints on the distribution of these scope-sensitive elements, which do not appear to be sensitive to language-specific positional constraints.

On the basis of the following examples in my learner data, I came to the following definitions for *encore* and *nog*:

I  Prolongation of TT

Encore and *nog* in initial position relate the TT in question to a simultaneous OR previously adjacent TT interval; the TT is prolonged in relation to a contextually-given previous TT:

[[*encore t (t ⊆ TT) Topic component*] [(Tsit), Focus component]]

(6.36)  
\[ \text{Il est 22.00, on avait rendez-vous a huit heures} \]  
It is ten o’clock we had an appointment at eight o’clock  
\[ \text{il n’est toujours pas là} \]  
he is still not there

(6.37)  
\[ \text{FA 2.4} \]  
\[ \text{nog heeft geen kinderen} \]  
still has no children  
[it is still the case that she has no children yet]

(6.38)  
\[ \text{MO 2.6} \]  
\[ \text{nog misschien brief komt} \]  
still maybe letter arrives  
[it is still the case that the letter can arrive]

(6.39)  
\[ \text{AS 3.1} \]  
\[ \text{encore faut tu bien expliquer quand-même} \]  
still must you good make clear however  
[it is still the case that you must make things clear]

(6.40)  
\[ \text{ZA 2.4} \]  
\[ \text{encore Rachid mal le ventre} \]  
still Rachid pain his belly  
[it is still the case that Rachid has pain in his belly]

(6.41)  
\[ \text{AS 3.2} \]  
\[ \text{encore il faut opérer la} \]  
still it have to operate there  
[it is still the case that I have to get operated there (=on my finger)]
II Prolongation or repetition of Tsit

Encore and nog in non-initial position operate on the time of situation and relate the situation/event time in question to a contextually-given simultaneous OR previous time of situation. The previous interval can be either adjacent or non-adjacent to the current one, depending on the lexical content of the predicate and its arguments which may or may not include a change of state:

\begin{itemize}
  \item[(A)] a change of state implies a repetition of a previous time of situation;
  \item[(B)] a 1-state lexical content implies a prolongation of the adjacent previous time of situation.
\end{itemize}

\begin{itemize}
  \item[(A)] \textit{Change of state of Tsit}
    \begin{itemize}
      \item[\text{["specification" t (t \text{\texttt{\texttt{TT}}}) Topic component] [encore t (t \text{\texttt{\texttt{Tsit}}}) Focus component 2-state]}]
    \end{itemize}
  \item[(B)] \textit{Prolongation of Tsit}
    \begin{itemize}
      \item[\text{["specification" t (t \text{\texttt{TT}}) Topic component] [encore t (t \text{\texttt{Tsit}}) Focus component 1-state]}]
    \end{itemize}
\end{itemize}

(6.42) MA 3.9
meisje nog roepen: “kom mee”
girl still call: "come with me"
[the girl called again: come with me]

(6.43) ED 3.2
bij eerst vallen en hij nog vallengedaan
he first fall and he still fall done
[he first felt and then he felt again]

It is important to note here that there is an essential cross-linguistic difference with respect to the use of nog and encore in French and Dutch. In French, encore in non-initial position does not need the addition of \textit{une fois} to mean 'once again'. In Dutch, \textit{een keer} needs to be added for a 'once again' meaning.

(6.44) AS 2.2
\textit{il est frappé encore}
he is hit again

(6.45) ZA 3.2
i parti à l'école encore
he left to school again/still

(6.46) FA 2.2
die mag nog loop
he/she may still walk

(6.47) MA 3.2
en dan die nog slapen
and then he/she still sleep
I believe that the definitions of nog and encore (in I and II) developed on the basis of these adult learner data explain our intuitions about how some adverbials can compensate for grammatical aspect viewpoint marking. If the Tsit of a situation is prolonged with respect to an earlier Tsit as in figure 6.1 below, then this suggests that the Tsit which was expected to finish earlier is now prolonged and falls within the boundaries of the TT:

---|---|---
8 o’clock | 10 o’clock
expected time of sleeping | at ten he is still sleeping

*Figure 6.1* Graphic representation of the aspeclual meaning of the adverbial ‘still’

Imagine that the TT you are talking about is yesterday at 10 o’clock in the morning and that the Tsit of the sleeping was expected to finish at 8 o’clock yesterday morning but was prolonged till 10 o’clock. Then TT includes Tsit because Tsit is prolonged until it finishes within the boundaries of TT.

### 6.4 Summary and discussion

In this chapter, I investigated the semantic and the structural properties of each temporal adverbial at each stage of each learner variety. In section 2.2.1, I explained that temporal adverbials express both internal and external temporal properties of time spans. They can specify the internal duration, the boundaries and the frequency of a time span and they can specify the external relationship between a TT, the time talked about, and another time span which is given in context. If this other time span is deictically given, the temporal relationship which is that between the time talked about TT and the time of utterance TU. The tadv yesterday, for example, indicates the temporal relationship between TU today and the TT the day before today. From section 2.1.2, we know that this lexical temporal marking indicates exactly the same external relationship as grammatical tense marking does on the verb; in this case the before relation of TT to TU (e.g., past tense).

In this chapter, I argued that it is much more difficult to lexically compensate for grammatical aspectual viewpoint marking: the relationship between TT and Tsit. Although tadvs can specify TTSs or Tsits very precisely, they cannot specify an ordering relationship between a TT and a Tsit, nor the difference between a TT included in Tsit and a TT included in TT. This implies that tadvs do not dispose of the same expressive power to indicate the aspectual perfect, prospective, imperfective, and perfective variation as do aspectual viewpoint markings around or at the verb (see section 2.1).
Furthermore, I showed in section 6.2.3 how one particular very productive adverbial (the Dutch and French equivalents of) *always* in different positions fulfills notions like habituality, iterativity, and continuity. I emphasized that these are not the grammatical aspectual viewpoint notions that are morphologically expressed in the source and target languages; these notions only indicate how many singular Tsis are hooked up to one TT (iterativity), or for how many TTs one Tsit is asserted (habituality) but not how these two time spans are related or ordered to each other.

I also discussed the semantic and the structural properties of the very productive adverbial *nog/encore* ‘always’. This is a contrastive adverbial, which as I already explained in section 2.2.4, might be a good candidate for compensating for viewpoint aspect. I explained on the basis of these learner data, where this intuition comes from; Tsits or TTs are prolonged in such a way that TTs are included in Tsits and this gives the imperfective viewpoint aspect reading.

These observations of the expressive power of deictic adverbials and adverbials such as ‘always’ and ‘still’ means that there is certainly no simple one-to-one relation between what tadvs can and cannot express instead of tense and aspect markings. Therefore, I believe that calculations comparing the relative numbers of inflected verbs and the number of tadvs must be interpreted with great caution.

I reported in chapter 6 that Fatima, Zahra, and Mahmuts, who do not develop any functional morphological differentiation at all, show the highest increase in the use of the adverbials *nog* and *encore* ‘still’ and *altijd* and *toujours* ‘always’ which points to a correlation between the amount of tadvs and the degree of what I refer to as “morphologisation”; learners who do not develop verbal morphology (continue to) use relatively more tadvs then learners who pass the lexical stage. However, this correlation can not be simply linear; it is not true that for each morphological marking that is acquired one tadv disappears. Firstly, the temporal reference system always functions thanks to the interaction of pragmatic, lexical, and morphological means. Secondly, not all tadvs can compensate for morphological tense and aspect markers to the same degree.

With respect to the structural properties of tadvs I found straightforward language-neutral placement restrictions on tadvs: in a position close to the verb in the focus component of the utterance, the information these adverbs express is the specification of Tsit, whereas in initial position -with wide scope- these adverbs specify the TT of the utterance. Thus, although topic times and times of situation coincide within utterances in basic learner varieties, the adult learners in this corpus initially used the same systematic embedding of tadvs in order to indicate which of the two time spans was specified. These learners put together what belongs together.
Chapter 7

Morphosyntactic doorways: The Dutch data

This chapter investigates how second language learners acquire tense and aspect, that is, which doorways they use to enter the target system of morphosyntactic tense and aspect marking. As can be seen from earlier chapters, this study has a concept-oriented focus. Nevertheless, this chapter is mainly concerned with forms, the acquisition of verbal forms. Not that I believe that it is particularly interesting to investigate if learners acquire tense forms before aspect forms or the other way around; the central issue always must be that learners have or want to express particular temporal concepts and therefore develop particular explicit linguistic means. As must have become clear from chapter 4, where I discussed the previous findings from form-oriented studies, I have my doubts if form-oriented analyses have been capable to capture the learners’ earliest experimentations of verbal morphology. The main goal of this chapter is to detect the earliest formal deviations of the basic verb forms and to give them a meaning. To the question why learners develop a particular temporal form-function mapping and what mechanisms or factors drive the learner to acquire verbal morphology at all my answers will remain tentative.

I believe that for capturing the learners’ earliest experimentations with verbal morphology, the analysis must be carried out on longitudinal data and must not take formal accuracy in obligatory contexts as its starting point (see also Bardovi-Harlig 2001:112). The longitudinal design of this study and its onset early in the acquisition process allows me to spot the earliest deviations from the base forms. If a learner uses in one interview only base “infinitives” and in the following interview an auxiliary-like verbal form in combination with these base forms (or fuses a morpheme with it), then there is reason to believe that the learner is trying to formalize whatever concept by morphosyntactic-like linguistic means. I refer to these first experimentations on and around the verb as “proto-verbal” markings. When they occur in the focus component of an utterance as auxiliary-like morphemes in combination with another (main) verb, I refer to them as
“proto-AUX”. Proto-verbal elements that occur “independently” from another verb in the topic component of an utterance and look like copulas are referred to as “proto-COP”. Note that I call them all “proto”-elements because they do not take all the features full auxiliaries and copulas show (person agreement, for example).

These longitudinal data also avoid the risk of interpreting non-analysed chunks or formulaic expressions as productive compounds (of base forms and morphemes). The longitudinal utterance-by-utterance analyses of the learners' growing linguistic repertoire permit us to detect cases in which one morpheme is inextricably fused with one and the same single verb.

The acquisition of verbal morphology certainly does not imply that pragmatic and lexical means do not play an important role any longer. Learners continue to use these means, although to a different extent. As I showed in the last section, the relationship between the use of tadv and the use of tense and aspect is not a simple linear one in the sense that a tadv leaves the scene as soon as a morphosyntactic marker comes in. However, there must be some exchange between tadv and morphosyntactic tense and aspect markings in expanding learner varieties. I showed in section 2.3 that fully-fledged languages also seem to have a particular balance between lexical temporal adverbials and the range of morphological markings of, for example, viewpoint aspect. Native speakers of German an - “aspect-less” language - used three times more adverbials for the same communicative task than did native speakers of English - a language with many more morphological aspect distinctions (Carroll and von Stutterheim 1992). Native speakers of Yukatek Maya performed equally well on the same communicative task as native German speakers, despite the fact that the German speakers coded (i.e. overtly expressed) the order of the events by means of relative tense and temporal adverbials in 92 percent of their assertion acts, whereas the Yukatek subjects did so in just 1 percent of their utterances (Bohnemeyer 1998). Therefore, as in the preceding chapter, also in this chapter the use of lexical means is taken into account.

As was seen from chapter 4, these “morphosyntactic” doorways make the learners pass the basic variety and enter the post-basic morphological stage; from now on they follow different routes of development (see, e.g., Dietrich et al. 1995: 202-204). Leaving the basic stage means acquiring the specific morphosyntactic means of the target language, often a complicated matter. For these reasons, the acquisition of the complex French and Dutch tense and aspect systems is described in different chapters. This chapter deals only with the acquisition of the Dutch morphosyntactic tense and aspect system. Chapter 8 provides a comparative analysis of the morphosyntactic development in the French data.
The research questions for the morphological stage of acquisition are the following:

(1) How do the learners of the present study enter the formal tense and aspect system of the target languages, that is, what are the first verbal forms which contrast with the base verbs?
(2) What meaning contrasts are associated with these early contrastive forms?
(3) Is there a one-to-one mapping of the meaning and the position of these early tense and aspect morphemes?
(4) What factors shape and push the development of a morphosyntactic tense and aspect system?

In order to answer the first and second questions, I spotted the use of base forms and deviations from them from the earliest stages on (with only a few productive verbs) towards the stage of a functional distribution of morphological variation by emergent tense and aspect markers (morphemes and auxiliary-like elements). In chapter 5, I presented three hypotheses which make different claims about the meaning of the earliest proto-verbal markings:

(5) The lexical aspect hypothesis; the first contrasts in verbal constructions do not have a clear tense or aspect contrast, they only mark the lexical inherent temporal features of the verb;
(6) The grammatical aspect before tense hypothesis; the first emerging morphological markings have a grammatical viewpoint function, that is they encode how the TS of the event described in the utterance is related to the TT for which the utterance is asserted;
(7) The grammatical tense before aspect hypothesis; the first emerging morphological markings have a tense function, that is they encode how TT for which the utterance is asserted is related to the time of the utterance TU.

In this chapter I present in detail my analysis of the diagnostic contexts which allow me to detect whether the first proto-verbal markings are encodings of the lexical aspect of the verb, grammatical aspect or grammatical tense.

The third research question concerns the relation between the position and the function of the earliest morphosyntactic forms. Do early morphosyntactic forms always occur at the same position? Do differences in position imply differences in meaning? In order to describe the structural properties of the earliest tense and aspect markings in relation to their semantic properties I first carried out detailed analyses of occurrences on a small subset of the data, the Modern Times data.

The fourth and final research question concerns the explanatory factors of the acquisition process. Several factors determining the development of morphosyntactic tense and aspect marking (research question four) have been
brought up in the literature (see section 4.3). In chapter 5 (section 5.1.2) I explained that, at first, these factors have to be divided in “shaping” factors and in “pushing” factors. Shaping factors function like a type of filter through which the learner acquires the target tense and aspect system. I consider the following factors as a kind of filter mechanisms:

1. The lexical aspect of the verbs with which the various tense and aspect morphemes are fused;
2. The semantic, structural and formal characteristics of the temporal reference system of the source language;
3. The semantic, structural and formal characteristics of the temporal reference system of the target language.

Pushing factors are communicative factors that push the learner to acquire further linguistic means. Communicative shortcomings and misunderstandings make the learner “aware” that the expressive power of his or her linguistic repertoire does not suffice to express what s/he wants to express. The analyses in this chapter concentrate on the weight of each of these factors although it must be the interaction between these factors that determines the learners’ morphosyntactic tense and aspect system.

This chapter is organized as follows. First of all, I review what other researchers analyzing the same data have said about the development of verbal inflection of the main Turkish (Ergun, Mahmut) and Moroccan (Mohamed, Fatima) learners of Dutch (section 7.1). Then, in section 7.2, I explain the discourse analytic procedure of the main data for this chapter: the Modern Times retellings (see chapter 5, table 5.5 third column). After the presentation of a quantitative overview of all base forms, proto-verbal markings and connectives used in the retellings of this film by the Dutch main informants, I continue my analyses following a pure concept-to-form approach consisting of analyses of what I refer to as “diagnostic contexts” (section 7.3). These “diagnostic contexts” consist of those parts of the retellings of Modern Times which “oblige” the learner to violate the three discourse conditions guiding the temporal reference in (re)narratives: the topic condition, the focus condition and the global TT condition (see section 2.3).

The question is whether and how the learners signal these deviations explicitly. What deviations do they mark first and in what form? Can lexical means indicate that the focus condition is violated or can only morphological viewpoint aspect markings indicate that the relation between TT and Tst is not the default perfective one? How do learners signal the violation of the topic condition (PNO)?

With respect to the question if learners develop morphological tense markings for expressing a change in the global TT-TU relation, it was necessary to carry out comparative analyses with personal narrative data. In contrast to the Modern
Morphosyntactic Doorways: The Dutch Data

Times retellings, these data are deictically embedded in time. It is only on the basis of a combination of the analyses of the personal narratives and the diagnostic contexts that the researcher can investigate which temporal relations are morphologised (first) and what temporal relations learners continue to express by lexical means. The comparison of the individual linguistic repertoires over time might provide an answer to the question what linguistic repertoire establishes temporal coherence better than another. And this could be an indication of what really pushes the learner to further develop (morphological) means: the fact that lexical and discourse-pragmatic means are not enough to establish discourse coherence in a communicative efficient way.

After the fine-grained analyses of diagnostic contexts of the main informants, I compare the diagnostics of the main informants with the diagnostics from the additional informants and with diagnostics on the basis of personal narrative data (section 7.4). First, the retellings of an additional Turkish (Osman) and Moroccan (Hassan K.) informant are included in the comparative analyses. Then the analyses of the personal narratives of the main informants which in contrast to filmretellings are deictically embedded in time (see section 6.1.2) are also taken into account.

Finally, in section 7.5, I present results of two types of form-to-function analyses. In section 7.5.1, I tested the lexical aspect hypothesis by investigating whether there was a distributional bias of particular morphemes (including auxiliaries) towards certain semantic types of verbs in all Modern Times data. An overview of all verbal form occurrences over time in the total data set is presented in section 7.5.2.

7.1 Previous findings of morphologisation in the same data-set

In this section a general overview of the development of verbal morphology with respect to temporal reference will be given for the four Dutch main informants: Ergun, Mahmut, Mohamed, and Fatima. A sketch of the development of each informant is derived from Dietrich, Klein and Noyau (1995). Additional comments are taken from Coenen and van Hout (1987), Klein and Perdue (1992), van Helvert and Hendriks (1990), and Jagtman (1994). The core data for these previous analyses were personal narratives and the Modern Times film retellings (see table 5.5, the second and third columns). Note that these authors refer to auxiliary-like and copula-like elements as “AUX”.
7.1.1 The Turkish learners of Dutch

**ERGUN**

**Cycle 1**

According to Dietrich et al. (1995), Ergun first works out a basic variety, as most learners do, with the properties regularly observed for this basic variety (see chapter 4.2.1). With respect to verbal morphology Ergun uses as a base form the so-called long form root + e(n), which looks like the Dutch infinitive. Dietrich et al. claim that towards the end of the first cycle, Ergun starts playing with inflected verb forms, in particular the present tense form and hebben 'have' + past participle (henceforth HAVE+PP) forms for the past; there are also some rare compound forms. Furthermore they say that Ergun works with the Principle of Natural Order (PNO) to mark the relative order of events “redundantly” supported by en dan ‘and then’.

Jagtman (1994) claims that Ergun starts off with utterances which are clearly verb final. She shows that soon after the start of data collection, Ergun begins to produce utterances containing more than one verb. At the end of cycle 1, the auxiliary is placed directly after the subject, and the main verb occurs in final position and has a long form. As Jagtman says, Ergun incorporates an auxiliary into his initial SXV pattern. Van Helvert and Hendriks (1990) show that, from the early stages on, Ergun uses complex VP’s in which AUX is initially absent and later on always filled with *is*.

**Cycle 2**

With respect to this cycle, Dietrich et al. (1995) report that the basic long forms are still used to refer to past, present or future. There are a few compound verb forms, mainly with HAVE+PP, less often with zijn ‘be’ + past participle (henceforth BE+PP), and occasionally with zijn ‘to be’ + infinitive (henceforth BE+INF). According to Dietrich et al., Ergun does not master the distribution. Other inflected forms are rare; there is occasionally an isolated past participle (henceforth pp), such as verzonden ‘sent’ and one single simple past in the entire second cycle; this is the copula was. There is no trace of aspectual marking by periphrastic means and the use of the discourse marker en dan ‘and then’ is considerably reduced.

Van Helvert and Hendriks also report on isolated past participles (bij niet gezien ‘he not seen’) and complex VP’s; AUX+inf ik heb betaald ‘I have pay’ and AUX+pp ik heb verteld ‘I have told’.

Klein and Perdue (1992) make the observation that by far the most interesting phenomenon in Ergun’s learner variety at this time is the use of *is*. About one fourth of his utterances in the retelling contain an *is*, sometimes even two, and only some of them are easily analysed as either “normal” copula constructions or auxiliaries. Klein and Perdue suggest two alternative explanations for the use of *is*: a structural one and a functional one. The structural explanation is as follows: In his transition from infinite utterance organisation to finite utterance...
organisation, Ergun puts the semantically empty element *is*, which only marks finiteness in his utterances, in the position of the finite verb. In other words, it seems that he knows that a distinction should be made between finite and non-finite forms and he knows the position of the finite verb in a sentence, but he has not yet worked out the morphosyntactic details. The functional explanation they venture reads as follows: *is* marks the boundary between the topic and the focus component of the utterance or the end of the topic component of the utterance. Klein and Perdue conclude that all occurrences of *is* are compatible with both analyses, although they seem to have a slight preference for the functional explanation, at least with respect to the last cycle (Klein & Perdue 1992: 210).

**Cycle 3**

Dietrich et al. (1995) report on this cycle that perfect forms **have+pp** become more frequent and slowly take over the role of “normal” past reference; present tense forms are confined to present and future reference. They say that qualitatively, there is nothing new until the end of his learning process (cycle 3). Ergun slowly erases bare long basic forms, elaborates perfect forms and, more or less in parallel, no longer uses present tense forms for past reference. At the end of the third cycle, this process is almost complete, although Ergun still makes mistakes in the choice of the appropriate auxiliary. Furthermore, as Dietrich et al. (1995) remark, there is no attempt to mark aspectual differentiation by the (quite common) periphrastic means which Dutch provides to this end (see chapter 3). Nor is there any attempt to interpret one of the morphological forms of Dutch in the sense of an aspect marker. They conclude that “the fact that the source language marks aspect apparently leaves no trace in Ergun’s acquisition process” (p 130).

Van Helvert and Hendriks (1990) also suggest that the only aspecto-temporal reference Ergun makes is a temporal one: the reference to past time by means of **have+pp**. They claim furthermore that in the third cycle Ergun begins to mark **aux** for the past, cf. *was gemaakt* ‘had been made’, *was gezien* ‘had been seen’.

With respect to the incorporation of an **aux** into his initially SXV structure, Jagtman (1994: 203) concludes: “It seems that, at the end of the study, he has started to infer from this (the incorporation of an **aux**, ms) that the position and the form of verbs in Dutch utterances are related to each other and that the position of the auxiliary has a specific function, namely agreement with the subject”.

**MAHMUT**

According to Dietrich et al. (1995:131), Mahmut also soon acquires a basic variety, with all its usual properties, including the regular use of *en dan* ‘and then’ which we observed for Ergun. In contrast to Ergun, however, he does not continue the weary road to the target language but rather optimises his basic variety. He adds lexical items to his repertoire, including *taadv*, and for the
expression of internal and external temporal relations, he tries to make optimal use of these adverbials, PNO and the basic long form.

The results of Van Helvert and Hendriks’ analyses are quite similar. Till the end of the third cycle, Mahmut continues to use only long forms. In cycle 2, one past participle form occurs several times *gezien* ‘seen’, always in isolation. In cycle 3, some new past participles occur: *gedaan* ‘done’, *geweest* ‘been’, *gezegd* ‘said’. According to van Helvert and Hendriks, they all occur in isolation, i.e. without the compulsory AUX.

Preliminary conclusion for Ergun and Mahmut (based on Dietrich et al. 1995: 132)

Ergun and Mahmut illustrate two ways of approaching the acquisition problem. Mahmut stabilises the basic variety, enriches it lexically, and learns to make optimal use of it. Ergun wants to leave it. His utterances blossom with funny forms which resemble, or do not resemble, target language forms, and which most often do not have the TL functions. Acquisition of form precedes acquisition of function. Ergun then slowly but continuously replaces the infinitive basic variety forms by the appropriate ones. Dietrich et al. conclude again that it is remarkable that neither he nor Mahmut ever tries to convey aspectual differentiations. This conclusion is a mirror-image of the alternation hypothesis proposed by Jansen, Lalleman and Muysken (1981) and contradicts the conservation hypothesis of van de Craats, Corver and van Hout (2000), who propose that learners will analyse the target language input for the typological possibilities of their source language, and, if successful, overgeneralise these possibilities.

7.1.2 The Moroccan-Arabic learners of Dutch

MOHAMED

Cycles 1 and 2

The basic observation of Dietrich et al. (1995) is that Mohamed's development seems to be exactly like Ergun’s with the interesting difference that his base form is not the long form but the bare stem (the short form) and that this short form is put not in final position but after the first NP. Coenen and van Hout (1987) already suggested that the explanatory factor of the word order difference could be source language influence. Turkish is a SOV language, whereas Moroccan-Arabic is marked by a (S)VO pattern (see chapter 3). The underlying pattern of the source languages, however, could not explain the difference in the use of the short and the long forms. Coenen and van Hout assume that, in this case, it is the structure of the target language input which plays a decisive role. The utterance-final verb in Dutch takes the long form of the infinitive or the past participle and the verb in second position is a short form inflected for tense and agreement. In their perception of Dutch, in conformity with the alternation hypothesis (Jansen, Lalleman and Muysken 1981) and the conservation hypothesis (van de Craats, Corver and van Hout 2000), the Turkish learners of Dutch probably pay attention
to the form of the verbs in verb-final position, whereas the Moroccan learners of Dutch look at the utterance-initial verb forms which in Dutch are the short finite forms. Dietrich et al. claim furthermore that in cycle 2 Mohamed’s common way to refer to the past is either the perfect or, in the case of the copula; was. He even shows occasional attempts to use a kind of aspeclual marking, cf.: zit dire jongens allemaal zit bingo te spelen ‘sit those boys all sit playing bingo’ all those boys are playing bingo. Recall from section 3.2.1 that zitten te ‘sit to’, staan te ‘stay to’ and liggen te ‘lie to’ + infinitive are typical Dutch periphrastic means to mark progressive aspect.

Van Helvert and Hendriks (1990) report on another attempt to mark aspect: Mohamed uses the complex verb phrase beginnen te ‘begin to’ + inf, which is an ingressive phase verb. They also remark that besides the overwhelming use of the verb form was, two other simple past tense forms appear in Mohamed’s repertoire, both exclusively used for reference to the past and both in contrast with present tense forms of the same verbs: dacht ‘thought’ and vond ‘found’. All these forms belong to the irregular past tense verbs in Dutch.

Jagtman’s (1994) findings on the structural properties of verbs in Mohamed’s repertoire in cycle 1 and 2 can be summarized as follows. Mohamed starts off with utterances with an SVX structure in which the verb has a short form. As soon as he starts to use two verbs (cycle 1), he places the two verbs in two different positions: the first one after the subject and the second one in sentence final position, with both verbs used in their short forms. Next (cycle 2), he starts to distinguish between the two verbs by giving them different forms: the second verb is given a long form, while the short form is reserved for the first verb. This affects Mohamed’s utterances with one verb: verbs with a short form are placed after the subject and verbs with a long form in sentence-final position. According to Jagtman this “reconstruction” (ms) also appears to lead him to revise his assumptions with respect to the underlying word order in Dutch: he starts to use more SXV utterances. Finally, like Ergun, he begins to assign a new function to the first position, namely agreement with the subject. She concludes that “at the end of the third cycle, he is close to consistently applying the Dutch verb-second rule”.

Cycle 3

With respect to the (explicit) marking of temporal coherence, Dietrich et al. make the observation that Mohamed has totally given up the present anaphoric adverbial en dan and correctly uses the appropriate past temporal adverb en toen whenever he wants to make a shift in past time explicit.

Van Helvert and Hendriks (1990) conclude that Mohamed’s mastering of Dutch verb morphology now allows him to make switches between present and past reference, including the use of vivid past, whenever he finds them conversationally appropriate. However, they did not observe a consistent form-function correspondence in his various complex VP forms. As in cycle 2 only
irregular forms are used and still no regular past tense forms appear. They also observe that Mohamed marks the AUX for past but does so only in [AUX + inf] combinations: *kwam zitten* ‘came to sit’, *kon lezen* ‘could read’, *was werken* ‘was working’.

**FATIMA**

Like Mohamed, but in contrast to the Turkish learners, Fatima uses the root (short) form (infinitive minus *en*) as the basic form and does not use the temporal discourse marker *en dan* (Dietrich et al. 1995). Dietrich et al. conclude that after the second cycle it was possible for Fatima either to follow Ergun’s and Mohamed’s way and move towards TL, or to stay with her basic variety and polish it as Mahmut does. The result is very clear: she goes the latter way. Throughout the third cycle, she does not learn a single inflected form.

According to Van Helvert and Hendriks, Fatima makes use of some frequent past participle forms like *getrouwd* ‘married’ and *gezien* ‘seen’ without using the compulsory auxiliary. Frequency in the target language may explain their incidental occurrence. These participle forms seem to be non-analysed chunks. The same goes for the confusing use of *kocht* (in standard Dutch this is the simple past form of the verb *kopen* ‘to buy’) in cycle 2. Fatima gives a future meaning to this form: *ik vandaag wieg nog kocht* ‘I today cradle still buy’. In cycle 3 *kocht* is clearly differentiated as a past tense form from the present tense form *koopt* ‘buy’.

### 7.1.3 Summary and discussion of previous findings of the same data-set

These previous findings give a first impression of the semantic and structural properties of the earliest experimentations with verbal morphology by the main informants of this study learning Dutch. Note that except for the study of Jagtman (1994) these studies have a concept–to-form focus. Their results with respect to the emergence of verbal morphology can be summarized as follows:

1. The Turkish learners start with long form verbs in utterance-final position, the Moroccan-Arabic learners start with a structure in which the short form verb occurs after the subject.
2. Fatima and Mahmut do not develop any tense and aspect morphology, except for some isolated participles.
3. The past participle is first used by all learners without the compulsory auxiliary.
4. There is no consistent form-function correspondence in the various complex VP-forms of Mohamed and Ergun; AUX + inf (long form), AUX + pp (*ge* + short form + */d/t/en*). They use the auxiliaries *zijn* ‘be’ and *hebben* ‘have’ randomly, that is, not according to the target language distribution.
5. Ergun and Mohamed use the construction HAVE + pp as past tense (post-time;
Both Ergun and Mohamed do not show any attempt to mark aspectual notions (except for Mohamed’s *zitten te* ‘sit to’ and *beginnen te* ‘begin to’).

In contrast to Mohamed, Ergun shows no occurrences of simple past tense forms (except for the copula *was*).

In contrast to Mohamed, who replaces the present *en dan* with the appropriate *en toen* for past contexts, Ergun continues to use *en dan* “redundantly” in the third cycle.

The use of *is* by Ergun is a marker of the topic-focus boundary in an utterance.

How do these observations answer the research questions as stated in section 5.1.2 (and repeated in the introduction to this chapter)? It is clear that the first two questions - regarding the earliest form-function mappings - are partially answered by these observations in the following way. The first experimentation with verbal morphology by these learners is the creation of isolated past participles; they are used first without, and later in combination with, the compulsory auxiliary-like form of ‘to have’ (only by Ergun and Mohamed). Parallel to this, there is a development of the construction *BE* + *INF* but in the first instance there is no form-function correspondence found in these various VP-forms. For cycle 3, the authors report that the *HAVE* + *PP* construction takes over the role of normal past reference but no function is given to the other VP constructions. Although there seems to be a consensus about the tense contrast in the first contrastive forms, both the studies by Dietrich et al. (1995) and by van Helvert and Hendriks (1990) also report (on the side) on some periphrastic constructions of aspectual differentiation by Mohamed (Dietrich et al. 1995: 137).

With respect to the third research question about function-form-position mappings, the results above are inconclusive; the relation between the structural properties of early proto-verbal markings and their function is not investigated (except for the remarks on the position of *is* by Ergun; Klein & Perdue 1992). None of the authors above draw a parallel between a given position and an aspectual-temporal function of the various verbal combinations. Jagtman (1994) claims that Mohamed and Ergun are gaining insight into the Dutch utterance structure rules when they start using two verbs with two different forms in two different positions. She also talks about a special function of the short forms in utterance-initial position, namely, agreement with the subject. However, in view of the central theme of her study (utterance structure), she does not assign any temporal or aspectual function to the various combinations of auxiliaries and past participles.

Concerning the driving factors of the development of verbal morphology (the fourth question), Dietrich et al. (1995: 273) conclude: “the first factor, the subjective need to sound and to be like the social environment, outweighs the other factor, the concrete communicative needs”. As I already announced in the
introduction to this book, I would like to pinpoint the communication difficulties or shortcomings of the lexical basic variety. I consider these system-internal deficiencies as the most important pushing factor for the learner to develop morphological means and to leave the flexible and safe basic variety. It is only on the basis of a fine-grained discourse analysis that form-function mappings of early aspectual-temporal markers can be checked. How else could we know what the learner wants to express using a particular verbal form, auxiliary or temporal connective? If we want to know by which linguistic means and in which order of development the learners try to keep the temporal references in their discourse coherent, we need a controlled temporal framework rather than isolated utterances. However, to be sure that the linguistic means used in a sub-set of the data are also used by the learners in the rest of the data, global analyses over the total data-base must be carried out in addition. In the next section, I first describe the procedure of discourse-analysis of the Modern Times film retellings and then the procedure of a more quantitative analysis carried out on a sub-set of the database and on the total data-base.

7.2 The procedure of data-analysis

This section serves two purposes: On the one hand, it gives a functionally organised description of the temporal framework of the film “Modern Times” which is used as stimulus for the elicitation of data which function as the central data-set in this chapter. Furthermore, it shows how the temporal coherence in the diagnostic contexts is built up (7.2.1). Temporal coherence in this type of discourse is achieved by shifting and maintaining the topic times to which each event time is anchored. This temporal framework is controlled by the reality ‘check’ of the film, which enables me to give temporal or aspectual meanings to the various tadv’s, connectives, proto-verbal markings on and around the verb. This type of data-analysis establishes the inter-individual, longitudinal and cross-linguistic comparison with the French L2 data. On the other hand, this section describes how the analyses over the total data-base are carried out.

For testing the predictions made in chapter 5.1.2, the advantage of the Modern Times retellings is that for these narratives we “know” the aspectual viewpoint or the position of the metaphorical video camera with respect to the events in the film (see section 2.1.4); the perspective on and the order between the events can be checked by the “reality” of the film. This implies that the temporal relationship between TTs and Tsits (the focus condition) and the relation between TTs (PNO; the topic condition) are more or less controlled. This stimulus-control helped me to define the so-called diagnostic contexts in the Modern Times retellings; contexts in which the learners are “obliged” to violate the topic and the focus condition. The interesting thing is to see if and how they indicate these violations.
This control does not hold for the global TT condition, the relation between TT and TU (tense) is as it were “absent” in these retellings. However, learners must choose an anchoring base tense (see section 2.3) and deviations from it must be motivated or by a change in the global TT-TU relation (tense marking) either by a change in the aspactual viewpoint (aspect marking). Nevertheless, I decided also to take the discourse analyses of the personal narrative data (see section 6.1) into account for comparative reasons. These data are embedded by default in the past but the informants often change the temporal frame by making references to the present or the future. These data permit to investigate in a more straightforward way whether the learners mark deviations from the global TT-TU relation as they change from past to present temporal reference.

A special focus will be on the position of the learners’ indications of violations of the topic focus and global topic time condition. Do they place the violation of the global topic time condition (that is a change in tense) in another position than a violation of, for example, the focus condition (a change in aspectual viewpoint)? Where do they place indications of a break in the chronological chain of the events? As in the case of the analyses of the structural embedding of tadv in chapter 6, I coded each “violation-indication” in whatever linguistic form (lexical, discourse-pragmatic or morphosyntactic) as having a POS1 (before the “subject”) or POS2 (after the “subject”) position. In section 6.1.1, I already explained that for present purposes I consider an element in POS1 as belonging to the topic component (person, place and time reference) and an element in POS2 as belonging to the focus component (the event description itself, normally done by the verb). This coding of position serves to investigate whether the learners put the violation-indication in the topic component or the focus component of the utterance (see section 2.3.2 for the theoretical background and sections 6.1.1 and 6.2.2 for the application of this coding). In the concrete case of proto-verbal markings as “violation-indications” this means that proto-verbal markings which are used in the focus component (POS2) normally occur in combination with a main verb also placed in the focus component. That is why I code them as “proto-AUX”. When proto-verbal markings occur in POS1, in the topic component, before the “subject”, they are as it were physically separated from the main verb. These “independent” elements I refer to as “proto-COP”.

The first step in my analyses is a general quantitative overview of the linguistic repertoire (forms) actually used by the informants to convey temporal reference in the Modern Times retellings (section 7.2.1). The second step is a concept-to-form analysis of a smaller sub-set of the Modern Times data: the diagnostic contexts (section 7.2.2). The last step is a quantitative analysis. First I tested the lexical aspect hypothesis in the Modern Times data sub-set. I looked at how different morphosyntactic-like forms are distributed over different semantic types of verbs in the Modern Times retellings. Then, on the basis of a concordance analysis of all the verbal forms used by each main informant in the total data-set,
I checked which verbs at first take a past participle form and which the Dutch past tense form. This concordance analysis was also the basis for a quantitative overview of a developmental overview of all the verbal forms used by each main informant in the total data-base (section 7.2.3).

7.2.1 Marking temporal relations in Modern Times

The subtitle of the stimulus-fragment of Modern Times is: “Determined to return to prison”. It starts with a scene where Charlie Chaplin comes out of jail and finds work in a shipyard. He is fired and on the street he befriends a young woman who HAS stolen a loaf of bread and, at the same time, he tries to ensure his return to jail where he has previously found food and shelter. For the discourse analyses, the film is divided into the following distinct episodes:

I The shipyard: Charlie causes the launching of a ship and is fired immediately. He is all the more determined to go back to prison.

II On the street: Meanwhile the girl, alone and hungry, sees a bakery van unloading bread at a bakery.

III On the street: As she steals a loaf of bread, another woman sees her stealing the bread and tells the baker, who in turn calls the police.

IV On the street: In flight the girl bumps into Charlie, and when the police arrives, he has the bread in his hands and takes the blame of the theft in order to return to jail.

V On the street: As the policeman is preparing to take him away, the woman arrives to say that in fact the girl stole the bread.

VI On the street: The policeman arrests the girl and releases Charlie.

VII A restaurant: Charlie goes into a restaurant, eats a lot of food and is standing at the cash desk, sees a policeman and tells him that he has no money.

VIII The street: While the policeman is calling a police van from a phone next to a kiosk, Charlie orders a cigar and generously gives chocolate to two children.

IX The street: The police van arrives and Charlie is put inside.

X The police car: Eventually the van stops and the girl gets in.

XI The police car: Chaplin and the girl meet.

XII The police car: There is a struggle and Charlie, the girl, and the policeman fall out.

XIII The street: The policeman is unconscious and when he wakes up Charlie hits him and he and the girl escape.

XIV The street: They sit under a tree and see a couple coming out the front door of a lovely house. The husband kisses the wife goodbye as he
goes off to work. Our heroes express their determination to get a house.

ten days later

XV The street: When Charlie and the girl meet each other again. She tells him that she has found a house and takes him to see it.

XVI The house: When Charlie enters the house beams fall, tables collapse and the roof falls when he sweeps but they succeed in making the house more comfortable.

XVII The street: They walk off, married, into the sunset.

It may be helpful for all the following analyses to see the topic time as the viewer of the metaphorical video camera I discussed earlier in section 2.1.4. The video camera can have a specific “topic time projection range” on the situation time. Especially in retelling a film, this metaphor can capture the way the retellers build up the retelling of the film in a coherent way instead of only giving isolated snapshots. The unifying thread in the story -over which the TT-camera can move- is a chronological time-axis at which various (parts of the) events are hooked up. As we will see, each reteller will focus on different parts of the filmed scenes/situations and will connect them in different overlapping or sequencing ways.

The video camera is assumed to start to zoom in at the scene at which Charlie comes out of jail. This “imaginary” time-interval on the time-axis functions as the starting topic time TT to which all the other events in discourse are related. The relation between the topic time TT and the time of utterance TU cannot be made explicit by an adverbial like yesterday at twelve o’clock because, as I have already explained several times, the film is not embedded in relation to the time of utterance. All learners start their retelling by setting the stage in a spatial way, as variants of “Charlie comes out of jail”:

(7.1) 2.6 ED
bij wil terug naar gevangenis
he wants to go back to jail

(7.2) 2.6 HK
bij was in ‘t gevang
he was in jail

From the story-line given above, it is clear that the temporal framework of the retelling can simply be built up by summing up all the snapshots seen in a chronological order (PNO). Since in the basic variety, the time of situation Tsit and the topic time TT are by default simultaneous, all the learner has to do is to shift the topic time (over the chronological time-axis) and relate the time of the event to it (see section 2.1.4). In this kind of narrative, the reteller does not even have to mark a shift in topic time explicitly, because all the events are shown in
How then can I ascertain of which linguistic means are actually used and which are needed by our learners in order to express the order of the events? The learner (Mahmut, in example 7.3) does not have to give formal contrasts to the basic long forms for the expression of tense and aspect contrasts. The essential temporal and aspectual information is already given. In a narrative the events follow each other perfectly (the focus condition, see section 2.3.2) and in a chronological order (the topic condition, section 2.3.2). Furthermore, because a film retelling is not embedded in time, Mahmut does not need to mark tense contrasts. Therefore, I defined some contexts of the Modern Times film as “diagnostic contexts”. For these contexts, I followed the same procedure and coding as I did for the analyses of the personal narratives in chapter 6 (see section 6.1): utterance by utterance I picked out, coded and copied the temporal adverbials, the connectives, the main verbs and verbal deviations from them (including proto-AUX). I also coded the lexical aspect type of the predicates (0-, 1-, 2-states), I copied the main verb form and the proto-verbal marking on the coding line and gave them a POS1 (before the “subject”) or POS2 code (other position). As I have said in the introduction to this section, proto-verbal elements got a POS1 or POS2 position code. A POS1 code implies that the proto-verbal marking is placed in the topic component of the utterance “independently” of the possible other verb in the focus component. In that case, the proto-verbal element is coded as proto-COP. If the proto-verbal marking is placed in the focus component, “adjoined” to the verb, I coded it as proto-AUX. As I have already said before (section 2.2.3), all these information-bits on the local utterance level (and their interaction) are important parts of the temporal information of the total utterance.

But what are the advantages and shortcomings of the linguistic repertoires of the learners of the present study for establishing temporal reference? What are the differences if we compare temporal means longitudinally and inter-individually? In the next section, I show how the combination of the following frameworks gives me the complete equipment for analyzing the learners’ (differences in)
Marking temporal relations in the Modern Times’ diagnostic contexts

Bohnemeyer (1998; see also section 2.3.3 of the present study) claims that the relation between the topic time and the situation time is essential in discourse. It determines what state of the whole situation time of a described event the speaker is talking about; the post-state of an event (perfect), the pre-state of an event (prospective), the middle of the action of an ongoing non-bounded event (imperfective) or the completion of a bounded event (perfectivity). This viewpoint captures how the event is related to the topic time and via the relation to other topic times in the discourse representation (TTs that define viewpoints on other events); they capture how the event is related to other events. I explained in sections 2.3.2 and 2.3.3 that an unbounded/incompleted (imperfective) marked relation of situation time Tsit with respect to a given topic time TT implies an overlapping time of situation Tsit(1) with a time of situation Tsit (2) in a sequence of utterances. A bounded/completed (perfective) marked relation of a time of situation Tsit to a given topic time TT implies a non-overlapping time of situation Tsit (1) with a time of situation Tsit (2). So in discourse, the assertion of boundary information about a time of situation Tsit(1) (the arrival of the police van, scene IX, for example) with respect to a given topic time TT(1) (the moment of time the reteller is talking about; “then, at that moment in the film”) implies information about the order of Tsit(1) with respect to another Tsit(2) in adjacent discourse (the time of Charlie’s entrance in the police van), provided TT(1) is successfully linked to TT(2) for which Tsit(2) is asserted. If Tsit(1) has a right boundary (a perfective marking, Tsit $\rightarrow$ TT) then it is clear that Tsit(2) follows Tsit(1). If Tsit(1) has no right boundary (imperfective marking Tsit $\leftarrow$ TT) then one can inferentially induce, following Bohnemeyer’s Boundary-To-Order implicatures (see section 2.3.3), that Tsit(2) overlaps with Tsit(1). The same holds for the marking of a pre-state (prospective) or a post-state (perfect) view on a time of situation Tsit. If the target event is asserted to be in a pre-state or in a post-state then it is assumed that another event in adjacent discourse overlaps with the pre-state (and hence precedes the target event) or with the post-state (and hence follows the target event).

In the target language Dutch, tads and connectives like daarna ‘afterwards’, terwijl ‘at the same time’ and en toen ‘and then’ are available to convey (non-) boundaries to the right of the situation time Tsit and can order the relation between two events or two topic times for establishing discourse coherence. But
Dutch also has the possibility of encoding boundedness versus unboundedness by means of aspectual operators like the imperfective *is aan het* ‘is on the’ + infinitive construction versus the (by default) perfective marking (see section 3.2.1). For example, in the case of the simultaneity of the calling of the police van, a native speaker of Dutch might say:

(7.3) *Terwijl de politieman aan het bellen was, ging Charlie een winkel binnen en pakte een sigaar en chocolade*  

[While the policeman was calling a police van, Charlie entered a shop and took a cigar and chocolate]

This native example shows how Dutch combines a temporal connective *terwijl* ‘while’ (which explicitly expresses the simultaneity of the events) and the imperfective marking of calling the police van by a typical Dutch periphrastic way of marking progressive (unboundedness), which infers an overlapping event order relation with the event in the adjacent clause. In fact, this is a violation of both the topic and the focus condition but in one complex utterance. The topic condition (or the Principle of Natural Order) is violated because the entering-event does not follow the calling-event but these events happen simultaneously. The focus condition is violated because the calling-event is not narrated perfectively but imperfectively; it has not been given any boundaries. The question is how our learners mark these “violations”. Do they mark non-boundedness with grammatical (aspectual) boundary operators, as is usually done in their source-languages? Or do they rely on lexical event order operators like *at the same moment*, or *while*? Or do they use a combination of these? Is it possible for them to mark subordination, which places part of the utterance into the side-structure of the total narrative and indicates “imperfectiveness”? In sum, how do these learners at different stages of acquisition link TTs and Tsit at the local utterance level and how do they link TTs at the global utterance level in order to make the order of events explicit?

Linking this combination of Klein’s temporal framework (1995) and Bohnemeyer’s BTO implicatures (1998) to the three general discourse principles I described in section 2.3.2 (on the basis of Klein and von Stutterheim’s Quastio-model) gives me the right tools to analyse diagnostic contexts of the Modern Times retellings following a concept-to-form approach. How did I define these diagnostic contexts? In section 6.2.3, I explained in detail how I carried out the concept-to-form analyses of the deictically embedded personal narratives. I explained that in (re-)narratives a particular type of temporal information can be inferred on default discourse conditions which I refer to as: (a) the topic condition (PNO; the TTs in a related set of utterances form a chronological chain); (b) the focus condition (the event described in the focus-constituent of the utterance is “bounded” within the TT of the utterance; this implies a default perspective viewpoint) and (c) the global TT condition (the global relation of TT to TU in a related set of utterances stays the same unless it is marked otherwise). Retellings
of particular parts of the Modern Times film “oblige” the learner to disobey these discourse principles. Violations of these three discourse principles must be marked explicitly, given the fact that they cannot be inferred on situational or discourse context. I defined as diagnostic contexts those scenes of Modern Times which might cause a violation of the default discourse principles. That is (a) those scenes in which the events cannot be told in their chronological order because some events happen at the same time and thus $TT(1)$ is not after $TT(2)$ but simultaneous with it. A violation of the focus condition occurs in (b) those events which cannot be told from the default perfective aspectual viewpoint because, for example, the $Tsit$ is before or after the $TT$. This asks for a respectively perfect or prospective aspectual viewpoint respectively. A violation of the third condition, the global $TT$-$Tsit$ relation is more difficult to catch in the film retellings: Why should the learners change the global $TT$-$Tsit$ relation in a narrative which is not embedded in time. That is why I included the personal narratives also in the comparative analyses.

When exactly does the learner have to make the order between the events and/or the relation between the topic time $TT$ and the situation time $Tsit$ explicit in retelling Modern Times? I assume that in retelling the following scenes the learner gets into problems because the situation time and the topic time are not (more or less) simultaneous but the topic time $TT$ is after the time of situation $Tsit$ (perfect). This is a violation of the focus condition which requires perfectly marked events in which $TT$ and $Tsit$ are more or less the same ($Tsit_1=TT_1$). I defined the “I have found the loaf of bread” scene IV and the “I have found a house” scene XV as diagnostic contexts, because:

(a) When Charlie says that he has stolen the bread, the stealing event ($Tsit$) has happened before the time he (falsely) admits to the crime ($TT$). The relevant inference here is that he has the bread in his hands at the moment of taking the blame: he’s referring to the resulting state ($Tsit<TT$); scene IV;
(b) The girl says that she has already found a house ($Tsit<TT$); scene XV.

Furthermore, I defined the following scenes as “diagnostic” because in retelling them in the way they are presented in the stimulus, the learners have to “stop” the metaphorical video to shift on the time axis. Several events are happening at the same time and thus the topic time $TT$ cannot automatically shift. This is the case in retelling the following scenes:

(c) When the girl is in flight she bumps into Charlie ($Tsit_1<TT_1$, $TT_1=TT_2$ and $Tsit_2_{/=/}TT_2$); scene IV.
(d) When Charlie is arrested and taken away by the police, another woman arrives and says that she has seen everything ($Tsit_1<TT_1$, $TT_1=TT_2$ and $Tsit_2_{/=/}TT_2$); scene V.
(e) The simultaneity of the police man calling the police van and Charlie going up to a kiosk to take a cigar and to offer chocolates to the children (Tsit1≤TT1, TT1=TT2 and Tsit2 < TT2); scene VIII.

(f) The simultaneity of Charlie and the girl sitting under the tree while the couple says goodbye (Tsit1< TT1, TT1=TT2, and Tsit2 < TT2); scene XIV.

(g) The simultaneity of actions which happen in the dream house (Tsit1≤TT1, TT1=TT2 and Tsit2 < TT2); scene XVI.

It is in retelling these scenes of the film that the learner cannot rely on the “automatic” shift of topic times following the topic and the focus conditions. The learner is forced - if he wants to retell these events maintaining the temporal discourse coherence - to make explicit that the topic time does not shift in the case of simultaneity of two events. Or, in other words, that the situation times of these events are part of the same topic time TT as in the scenes IV, V, VIII, XIV and XVI. Furthermore in retelling the “I have found a loaf of bread” scene IV and the “I have found a house” scene XV, the reteller has to mark explicitly that the topic time and the situation time are dissociated. In the direct speech of Charlie and the girl, the times of situation (stealing the bread and finding the house respectively) are not the same as the topic time TT (in the case of reported speech, the topic time TT is the time of speech, the time of of utterance TU of Charlie and the girl). The situation time of stealing the bread, for example, is completely over at the topic time. Note that in retelling this scene IV, the relevant inference is that Charlie has the bread in his hands in a “here-and-now context” (in the “actuality” of the film), which prefers an aspectual Tsit < TT (≈TU) contrast to a temporal (Tsit=TT<TU) contrast. The camera does not take us back to the stealing event (TT < TU) but zooms in on Charlie, who is in the post-state or the resultative state of stealing the bread (Tsit < TT).

Of course, there is a deep connection between pastness and completedness (whether actually achieved, as with the perfective, or only potentially available, as with 2-state verbs) and the question is if learners do not overgeneralize a completedness marker for past events (e.g., HAVE+PP) or, the other way around, a past tense marker for marking completedness. This is especially relevant for Dutch, where for the past two different notions (Tsit< TT=TU for perfect and Tsit=TT<TU for past) conflate in one morphosyntactic coding. Therefore, if I want to test the grammatical-aspect-before-tense hypothesis (see hypotheses in section 5.1), I need diagnostic contexts such as (a) and (b) above, from which I know that there is a dissociation between the situation and the topic time and NOT a dissociation between situation and utterance time.

To sum up, in order to capture the precise aspectual or temporal function of the linguistic means used in the retelling (including the very idiosyncratic ones), I first focus on the following diagnostic contexts:
(a) The marking of the post-state of events in retelling the scenes IV (the bread stealing scene) and XV (the “I have found a house” scene);
(b) The marking of the simultaneity of different event times at the same topic time in retelling the scenes IV, V, VIII, XIV and XVI.

On the basis of a longitudinal, inter-individual and cross-linguistic analysis, I show how the linguistic repertoires differ between the slow and the fast learners, between the Moroccan and the Turkish learners, and between the acquisition stages. Finally, I compare the diagnostic context analyses with the analyses of the personal narratives I have already carried out for the investigation of form, function, and position of tadvs (see section 6.2.3). These results may give us an answer to the question why some learners move on to the development of language-specific morphosyntactic means and why others fossilize at the lexical stage of marking temporal and aspectual notions by means of tadvs.

7.2.3 The analyses over the total corpus

As far as the procedure of the more quantitative analyses of the data is concerned, I can be relatively brief. First, in order to investigate the importance of the seven factors for the development of early proto-verb al markers (mentioned at the beginning of this chapter), I needed to check if there is a distributional bias of particular morphemes anchoring at a particular semantic type of verb. This is in fact the testing of the lexical aspect hypothesis (see section 4.1.3). I checked and counted this distribution only in the Modern Times retelling data. Secondly, I checked in the total database which verbs are used at first in the past participle form and which verbs at first receive the Dutch regular or irregular past tense form. This overview is based on a concordance analysis of all the verbal forms used by each informant in the total data base. This same concordance list serves as a developmental overview of all the forms used by the informants over the three years of data-collection. I counted all the past participles, past tense forms, long forms, root forms and the root +t forms for each verb for each main informant in all the sessions.

7.3 The results of the discourse analysis of Modern Times

In this section, I present the diagnostics of the discourse analyses of the Modern Times film retellings by the main informants Ergun and Mahmut (Turkish) and Mohamed and Fatima (Moroccan-Arabic). I first present a quantitative overview of the temporal adverbials, connectives, verbal base forms, and the deviations from them (past participles, proto-AUX etc.) the learners used in retelling Modern Times (7.3.1). Then, in a concept-to-form analysis of diagnostic contexts, I investigate which of these constructions and adverbials express which temporal
relation: (a) the TT to TT relations between utterances, (b) the TT to Tsit relations at the local utterance level (aspect) or perhaps marked explicitly by the learners (c) a change in the anchoring tense expressing the global TT-TU relation (7.3.2).

7.3.1 Marking temporal relations in Modern Times; a form-oriented analysis

In order to give an account of the learners’ development in the lexical and morphosyntactic components for temporal reference, I give a general quantitative survey of all base forms, the proto-verbal constructions, (temporal) connectives, topic time shifters and temporal adverbials used by the main informants of L2 Dutch in retelling Modern Times in the Cycles II and III below. Table 7.1 shows a first quantitative analysis of the different (proto)verbal constructions which consist of bare infinitives, bare past participles, bare root forms, proto-AUX + infinitive/past participle constructions, the possible topic time shifters, the purely temporal connectives, and other temporal adverbials used by the main informants in the Modern Times retellings. Of course, these figures per se do not say anything about the actual development of acquiring linguistic means in order to maintain the temporal coherence in retelling Modern Times. It is unclear whether the formal contrasts are also functional contrasts.

However, table 7.1 can be seen as a quantified corroboration of the following previous ESF results (see section 7.1 above):

- Turkish learners’ base forms are long forms (root + en) and Moroccan learners’ base forms consist of the short root form;
- The first indications of verbal differentiation are past participles, proto-AUX modals + infinitive constructions and proto-AUX HAVE/BÉ + INF/PP constructions;
- The only verbal differentiation which is shown by the slow learners Fatima and Mahmut is the use of bare past participles. This is in contrast to the fast learners Ergun and Mohamed who have proto-AUX + past participle constructions and even develop the Dutch past tense form of zij ‘to be’: was;
- Ergun, who triples, and Mohamed, who almost doubles, his proto-AUX HAVE+PP construction in the third cycle.
Table 7.1. Overview of basic forms, proto-verbal constructions, temporal adverbials and topic time shifters used by the main Dutch informants in retelling Modern Times (cycles II and III)

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Ergun II</th>
<th>Mahmut II</th>
<th>Mohamed II</th>
<th>Fatima II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>II</td>
<td>III</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>short form (root)</td>
<td>13</td>
<td>8</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>long form (root+en)</td>
<td>33</td>
<td>17</td>
<td>36</td>
<td>55</td>
</tr>
<tr>
<td>HAVE+PP</td>
<td>4</td>
<td>15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BE+PP</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>o+PP</td>
<td>3</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>HAVE+INF</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BE+INF</td>
<td>25</td>
<td>18</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>was+inf</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>was+pp</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>gaan+inf</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>gaan+pp</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>locatives + inf</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>modal proto-AUX (moet, mag, wil, kan + inf.)</td>
<td>15</td>
<td>8</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>was + o</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>past tense forms</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>temp. adv</td>
<td>-</td>
<td>-</td>
<td>2 altijd</td>
<td>-</td>
</tr>
<tr>
<td>topic time shifter</td>
<td>33 (en) dan</td>
<td>21 (en) dan</td>
<td>23 (en) dan</td>
<td>31 (en) dan</td>
</tr>
<tr>
<td></td>
<td>6 (en) toen</td>
<td>4 en dan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In addition to a corroboration of the ESF results, I observed that:

- Ergun, in contrast to Mohamed, uses a lot of proto-AUX *is* + pp constructions and proto-AUX *is* + infinitive constructions in the second cycle, but the proto-AUX *is* + pp construction disappears in favour of the proto-AUX *is* + inf construction in the third cycle;
- No past participles are combined with *was*;
- Mohamed is the only one who develops the real Dutch past tense forms *kwam* ‘came’, *liep* ‘walked’;
- The fast learners Mohamed and Ergun differentiate a topic time shifter for the past *en toen* and for the present and the future context *en dan*, whereas the slow learners only have *en dan*;
- The lexical event order adverbials *afterwards* and *before* are not used.

In order to explain these observations, it is essential to know whether:

1. Long forms “correspond” to TL infinitives or past participles. In *ik ben in de kamer* ‘I am in the room’, the past participle *in de kamer* can be analyzed as a missed past participle of the target form *in de kamer*. In the case of a past participle *in de kamer* the isolated past participles can be interpreted as non-analyzed chunks because verb forms like *in de kamer* do often occur in the input in a past participle form;
2. The various verbal constructions such as the modal proto-AUX and the proto-AUX *be/HAVE* + *inf/pp* are used in complementary distribution;
3. The various auxiliaries and long forms are used in systematic combinations (e.g., is the past participle always used in combination with proto-AUX of ‘to have’ or also with other proto-AUX?);
4. There is a one-to-one mapping between the type of verbal construction and its aspectual or temporal function;
5. There is a one-to-one mapping between the temporal or aspectual function of a proto-element AUX and its structural embedding in the topic or the focus component.

This complementary information can only be derived from an in-depth discourse analysis of which we know the temporal framework, the order of the events. However, as I have shown above, the reteller does not need to do more than link situation times to default simultaneous topic times. The topic time is automatically shifted by the Principle of Natural Order (see section 2.3.1). In the following section, I will therefore focus on those parts of the retelling which require an “explicit” marking of the order of events and/or an explicit marking of the relation between Tsit and TT. I concentrate on diagnostic contexts which I defined as those contexts in which the default topic and focus discourse pragmatic conditions have to be violated. I believe this is the only way to assign a particular
temporal or aspectual function to the event order operators (temporal connectives), the aspectual, temporal and modal morphosyntactic markings and the topic time shifters (e.g., ‘and then’). Furthermore, this concept-to-form analysis also makes it possible to capture the idiosyncratic (implicit and/or explicit) means used by the learners for a particular temporal or aspectual function.

In the next section, I discuss the diagnostic contexts in detail for each main informant. The concrete analyses are described in two parts. First, I describe the analyses of the Tsit<TT diagnostic contexts and then those of the simultaneity contexts. Not all learners retell the same events. Especially Mahmut and Fatima, the slow learners, skip some scenes. Most retellings are presented in two columns. On the left side, the retelling of the slow learner can be found. On the right side, the retelling of the fast learner in the same cycle (cycle 2 or 3) is presented. As can be seen in chapter 5, table 5.5, no Modern Times retelling is available for the first cycle in the Dutch data. The two types of diagnostic contexts are divided as follows:

(1) Which linguistic markings do the learners use to mark the relation Tsit < TT in retelling scenes IV (“the bread stealing” scene) and XV (the “I have found a house” scene)?

(2) Which linguistic marking do the learners use to mark the overlapping event order relation (Tsit1<TT1, TT1=TT2 and Tsit2</=TT2) as in scenes IV, V, VIII and XV?

For all learners, the retelling of the second cycle will be analysed first. In comparison with the retellings of the third cycle, possible developmental changes can be detected.

7.3.2 The results of the diagnostic contexts of the Turkish main informants

(1) The marking of Tsit < TT: “I have stolen the bread” and “I have found a house”

Take the bread-stealing scene and imagine that Charlie has the bread in his hands and wants to say “I have stolen the bread”. Charlie refers to the post-state of the event, he is in the post-state of stealing the bread and the video camera is on Charlie with the bread in his hands admitting to the theft (Ergun cycle 3): Tsit < TT (admitting to the theft) = TU (admitting to the theft).

The video camera does not take us back to the scene where the bread was stolen but is on the “deictic” here- and-now (in the “reality” of the film). There is a mis-match between the bread stealing event talked about and the “position” of the video camera on the imaginary time-line (or between Tsit and TT). Below we have the relevant utterances of the retellings of the Turkish learners:
MA 2.9
scene IV
en dan politie komen
and then police come
Charlie zegt:
he says:
*ik weggooien*
*I throw away*
+ *meisje weggooien*
+ *girl throw away*
scene V
en dan andere vrouw komen
and then other woman come
zegt niet man weggooien
that woman does not say man throw away
girl throw away
than girl catch
en dan meisje weg
and then girl away
dan politie zien
then police seen

ED 2.9
bij wil terug naar gevangenis
he wants to go back to prison
bij zegt: ik heb gedaan +
he says: I have done +
Ik heb brood weggemoald
I have bread taken away

MA 3.9
scene IV
die andere meneer (charlie) zegt:
that other man (charlie) says:
*ik weghalen*
*I take away*

ED 3.9
dan is die man is komt hier
then is that man is comes here
die vrouw komt
that woman comes
die man zegt tegen politie: ik heb hier brood weggemoald
that man says to police: I have here bread taken

In the left-hand column, Mahmut is retelling this scene by means of invariable nonfinite long forms *weggooi'en* ‘throw away’ (cycle 2) and *vatten/weghalen* ‘catch’
(cycle 3), no proto-verbal tense and aspect markings (remember Mahmut is a slow learner). Note that he uses gezien ‘seen’ in its past participle form. As I have already said in section 7.3.1, this is probably an unanalyzed form. Certainly, the Turkish learners of Dutch have as many difficulties in perceiving the morphosyntactic contrast between the basic long forms and the past participle in the input as the researcher does in analysing their output. Besides the implicit PNO, the only explicit temporal marker Mahmut uses is the topic time shifter en dan ‘and then’ (cycle 2), which clearly shifts the topic time from one snapshot to the other.

In the right-hand column, we can see that Ergun also uses the topic time shifter en dan ‘and then’ and even in the third cycle, the target Dutch past topic time shifter en toen ‘and then’ which embeds the total retelling, as it were, in the past. Furthermore, we see in Ergun’s cycle 3 retelling the first occurrence of the past tense was ‘was’. Note that the structural marking of this copula-like element is regularly distributed immediately before the leftmost argument of the verb (‘subject’ for short). The proto-AUX HAVE occurs only to the right of the subject for reasons we shall see. I already explained in section 6.1.1 that, for present purposes, I consider an element in POS1 as belonging to the topic component (person, place and time reference) and an element in POS2 as belonging to the focus component (the event description itself, normally done by the verb, see section 2.3.2 of the present study) for the theoretical background. This implies that I coded the initial proto-verbal marking was as POS1, which is why it belongs to the topic expression:

\[(7.5) \quad \text{ED 3.9} \quad \text{en dan toen was die politie} \quad \text{pakken hem}
\]

The post-subject proto-verbal marking is/heb belongs to the focus expression of the utterance, as in:

\[(7.6) \quad \text{ED 2.9} \quad \text{en dan hij} \quad \text{is teruglopen}
\]

The distribution is clearest, of course, in the following “double is” construction:

\[(7.7) \quad \text{ED 3.9} \quad \text{dan is die man} \quad \text{is komt hier}
\]

In this way, I distinguish auxiliary-like (proto-AUX) elements -put in the focus component near the main verb- from copula-like (proto-COP) elements which are put before the subject and so are “physically” separated from the possible main verb in the focus component.

The interesting question with respect to temporal coherence is: What can these
learners do with their linguistic repertoire? Notice that both of them can frame the reported speech, but then Mahmut has only nonfinite invariable forms for saying that he has stolen the bread: *ik weggoien ‘I throw away’* (cycle 2) and *ik vatten/weghalen ‘I take away’* (cycle 3). These nonfinite forms give no indication at all if Charlie is going to do that (pre-state, prospective aspect) or that he’s in the middle of an action which he completes (perfective aspect) or does not complete (imperfective aspect) or that he just has stolen the bread and is now in the post-state of doing it (perfect aspect). Note that Mahmut does not need to express a past or future tense because, for directly reported speech, the TT simultaneous to the TU (of the reported speaker).\(^1\)

Then consider Ergun’s retelling. The occurrence of a proto-AUX *HAVE* in the focus constituent of the utterance indicates a clear violation of the focus condition. He does not use the default long form, but inserts a proto-AUX and makes a past participle of “to do”. In the case of the “I have stolen the bread” reported speech, we know that this is a context which requires a perfect viewpoint aspect because Tsit<TT=TU. The video camera is on Charlie with the bread in his hands *ik heb bier brood weggehaald ‘I have here bread taken’* and not on the theft itself.\(^2\) The construction *HAVE+PP* is used in contrast to the generally used basic long form which has a default perfective aspect (focus condition). For these scenes, Ergun wants to express that the time of the event is not (partly) included in the time talked about (perfective aspect), but that the event is already over at the time talked about (which is TU). Note that the past participle form of ‘to do’ in *ik heb gedaan ‘I have done’* in session 2.9 can be considered as a complex form. This pp-form is used in contrast to the base form *doen in doen zeg ‘do say’* which occurs in the same retelling:

\[
(7.8) \quad \text{ED 2.9}
\]

*als hij doen zeg “ik doe niets”*
if he does say “I do nothing”
*“ik heb niet gedaan” zegt*
“I have not done” says
*dan moet die dinges ook gevangenis*
then must that thing (the girl) also prison

Another example of a resultative state wherein the situation time is clearly over at the topic time is in the reported speech of the girl when she wants to show Charlie the house that she has found for the two of them and she says: “I have found a house.”

---

\(^1\)This is possibly the reason that second language learners often use reported speech; as a learner strategy.

\(^2\) Notice that we know from the quantitative overview presented in table 7.1 that, at the second cycle, there are only four instances of a Proto-AUX *HAVE+PP*. These are all cases of reported speech wherefor the topic time is the same as the time of utterance
I have found a house

MA 2.9
scene XV
meisje zegt: ik heb huis kopen + vinden
girl says: I house buy + find

ED 2.9
bij is lopen, afspraak denk ik,
he is walk, meeting I think
bij is afgesproken
he is meeting(en)
zij zegt: bij ons ook een huis gewonnen
she says: by us also house (won) found

MA 3.9
en meisje zegt: ik een huis
and girl says: I a house

en dan toen was die meisje ook thuis gewonnen
and then (present) then(past)
was that girl also home found.

The camera lens is focussing on the house, the resultative (visible) state of “I have found X”. We see that Mahmut also uses default long forms kopen/vinden ‘buy/find’ in this resultative reference. This is in clear contrast to Ergun who in Cycle II uses a bare past participle gewonnen ‘won’ and in Cycle III, a past participle in the focus constituent and a deictic past tense feature was in the topic constituent: en dan toen was die meisje ook thuis gewonnen ‘and then (present) then(past) was that girl also home found.’

Note that it is only at the end of the data collection that Ergun makes further progress by showing this timid past tense expression was in the topic constituent of the utterance. In contrast to the first retelling at the end of the second cycle, it is clear that, for this retelling, he tries to embed the whole retelling in the past which is shown by the frequent use of the past form of the temporal connective en toen ‘and then’ (see table 7.1). This is an important indication of the anchoring tense (see section 2.3.2); the speaker places the video-camera (TT) on a time-span at the time-axis which is before the here-and-now and thus temporally “anchors” the narrative in the past.

Note that Ergun puts the past time marker was, which functions here as a kind of copula, in a position other than where he puts the proto-AUX have. The copula tense marker was is clearly in utterance-initial position, even before the subject. Here the is/was contrast is considered as a clear present/past contrast reinforced by the contrast in topic time shifter en dan for the present versus en toen for the past. The fact that the is/was tense-contrast only occurs in the topic constituent and the is/beaspect-contrast only occurs in the focus construction can be shown in the examples (7.10-12). Ergun starts the retelling in cycle 3 as follows:

(7.10) ED 3.9
die man hier is gewoon werk aanrogen
that man here is just work ask
The contrast between the progressive-like is aanvragen, is schrijven and the perfect-like heeft werk aanvragen are expressed in the focus-constituent of the utterance. They violate the focus condition which claims a default perfective aspectual viewpoint. Note that, in the following examples, that the contrast between the tense marking is versus was takes place in the topic-constituent, to have scope over the whole utterance (including TT), indicating a present or past global TT to TU relation. The difference between these two global TT-TU relations can be detected in the Dutch data because of the difference in form between the present en dan and past en toen topic time shifter which means ‘and then’:

\[
\begin{align*}
(7.11) & \quad \text{ED 3.9} \\
& \quad \text{en dan is hij heeft werk aanvragen} \\
& \quad \text{and then is he has work ask}
\end{align*}
\]

\[
\begin{align*}
(7.12) & \quad \text{ED 3.9} \\
& \quad \text{en dan toen was die meisje ook thuis gewonnen} \\
& \quad \text{and then (then) was that girl also house won}
\end{align*}
\]

In the next part of the presentation of the diagnostics, I describe how Ergun and Mahmut express simultaneity. In fact, simultaneity implies a violation of both the topic condition and the focus condition. The topic condition is violated because two events are not described as happening after each other following PNO, but as happening at the same time. The focus condition is violated because the aspectual viewpoint of one of the two events cannot be a perfectively aspectual viewpoint. When Tsit1 is given no right boundary (imperfective marking Tsit\(\leq TT\)), then one can inferentially induce, following Bohnemeyer’s Boundary-To-Order implicatures (see section 2.3.3), Tsit2 overlaps with Tsit1, provided that TT1 is successfully linked to the TT2 for which Tsit2 is asserted.

\[(2) \quad \text{Simultaneity; Tsit1}\subseteq TT1, TT1=TT2 \text{ and } Tsit2 \subseteq TT2\]

The first diagnostic context of simultaneity for Ergun and Mahmut is in scene V, in the retelling of the “I have stolen the bread” scene above. After Charlie has taken the blame, the police arrest him and, as the police takes him away, the woman arrives. In Ergun’s cycle 2 retelling, the subsequent utterance of ik heb broodweggehaald, contains a proto-AUX is in the focus constituent of the utterance (after the “subject/agent”): en dan hij is teruglopen ‘and then he is walk back’. Then
follows the utterance *die vrouw komt* ‘that woman comes’. From the order of events in the stimulus film, we know that these events happen simultaneously. From Bohnemer’s (1998) BTO implicatures (see 2.3.3), it can be inferred that the first event is unbounded/imperfective or, in other words, does not have a boundary within the topic time. This aspectual notion of imperfectivity must be what Ergun encodes by the combination of proto-AUX *be+inf* in the utterance *en dan hij is teruglopen* ‘and then he is walk back’. This is almost the target prospective Dutch *is aan het + infinitive* construction, see section 3.2.1: The video camera views both Charlie (and the police) and the other woman from the same time span (=TT) on the imaginary time axis. The second scene of simultaneity is the scene in which Charlie and the girl are sitting under a tree and see a couple coming out of the front door:

(7.13) **UNDER THE TREE**

<table>
<thead>
<tr>
<th>MA 2.9</th>
<th>ED 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>scene XIV</td>
<td></td>
</tr>
<tr>
<td>en dan weg samen</td>
<td>boom daar ook zitten</td>
</tr>
<tr>
<td>and then away together</td>
<td>tree there also sit</td>
</tr>
<tr>
<td><em>die een thuis zien</em></td>
<td><em>even praten over iets</em></td>
</tr>
<tr>
<td>that ((they)) a home see</td>
<td>a moment talk about something</td>
</tr>
<tr>
<td><em>meisje en man denken:</em></td>
<td><em>daar ook die man</em></td>
</tr>
<tr>
<td>girl and man think</td>
<td>there too that man</td>
</tr>
<tr>
<td><em>ik ook zo thuis kopen</em></td>
<td><em>bij is misschien gaan naar werk</em></td>
</tr>
<tr>
<td><em>me too such a house buy</em></td>
<td>he is maybe go to work</td>
</tr>
<tr>
<td><em>en dan ook vrouw komt</em></td>
<td><em>en dan ook vrouw komt</em></td>
</tr>
<tr>
<td><em>and then also woman comes</em></td>
<td>and then also woman comes</td>
</tr>
<tr>
<td><em>ook daar iets praten</em></td>
<td><em>ook daar iets praten</em></td>
</tr>
<tr>
<td><em>also there talk something</em></td>
<td>also there talk something</td>
</tr>
<tr>
<td><em>die meisje ook</em></td>
<td><em>die meisje ook</em></td>
</tr>
<tr>
<td><em>that girl too</em></td>
<td><em>that girl too</em></td>
</tr>
<tr>
<td><em>van ons ook zo thuis hebben</em></td>
<td><em>van ons ook zo thuis hebben</em></td>
</tr>
<tr>
<td><em>from us also such home have</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MA 3.9</th>
<th>ED 3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>even weglopen en andere thuis bijzitten</td>
<td>en dan die gewoon hier zitten</td>
</tr>
<tr>
<td>a moment ran away and</td>
<td>and then that ((they)) just here sit</td>
</tr>
<tr>
<td>other home sit</td>
<td>een man komt</td>
</tr>
<tr>
<td>daar zitten</td>
<td><em>a man comes</em></td>
</tr>
<tr>
<td>there sit</td>
<td>bij gaan werk</td>
</tr>
<tr>
<td><em>en die meeneer werk gaan</em></td>
<td><em>he go work</em></td>
</tr>
<tr>
<td>and that man work go</td>
<td>he has so kiss give</td>
</tr>
<tr>
<td><em>en vrouw ook bij</em></td>
<td><em>en die meisje ook zeggen</em></td>
</tr>
<tr>
<td>and woman also</td>
<td>and that girl also say</td>
</tr>
<tr>
<td><em>meisje zegt</em></td>
<td><em>wij hebben zo een huis</em></td>
</tr>
<tr>
<td>girl says</td>
<td>we have such home</td>
</tr>
<tr>
<td><em>bij ons ook misschien zo huis</em></td>
<td></td>
</tr>
<tr>
<td>with us also maybe such home</td>
<td></td>
</tr>
</tbody>
</table>

The use of the adverb *ook* ‘too’ in Ergun’s cycle 2 retelling is too frequent to be incidental. In fact, it has been shown in L1 acquisition data that this linguistic
device is often used to encode simultaneity of events (e.g., Aarssen 1996). The combination of ook ‘too’, the durative even ‘for a moment’, and the use of a progressive Dutch periphrases-like proto-AUX be+inf in hij is misschien gaan naar werk ‘he is maybe goes to work’ ensures that these events do certainly not get a perfective interpretation; all the events seem to happen at the same (topic) time.

The third example of simultaneity can be find in the sequence of the utterances in Ergun’s session 2.9 “I have found a house” scene (XV):

(7.14) ED 2.9  
dan die over tien dagen bij is lopen, afspraak denk ik,  
then that one after ten days he is walk, meeting I think  
bij is afspraken  
he is ‘meetingen’  
zij zeg bij ons ook een huis gevonden  
she says with us also a house found

We see the same proto-AUX be+inf construction in the focus constituent of the utterance bij is lopen ‘he is walk’ and bij is afspraken ‘he is meetings’ as in the preceding example (7.12). While Charlie and the girl are seeing each other after ten days in prison, she tells him that she has found their dreamhouse. The sequence of events is not narrated perfectly. The first event is encoded imperfectively is lopen, is afspraken so that the time of situation of the subsequent event does fall into the topic time of the preceding event:

Tsit1(walking, meeting) ⊂ TT1, TT1 = TT2 and Tsit2 (saying that she found the house) ⊂ TT1

The productive use of ook ‘too’, even ‘a moment’, altijd ‘always’ (see section 6.3), and the use of the target-like proto-AUX be+inf construction can be found in the scene in which lots of accidents happen at the same time to Charlie when he enters the house:

(7.15) THE DREAM HOUSE

MA 2.9  scene XVI
bij deur open doen  
he door open do  
en dan boven kop in  
and then above head in  
bij alles kapot gedaan  
he everything broken done  
bij altijd vallen gedaan  
he always fallen done

ED 2.9  
bier is komt huis deur open  
here is comes house door open  
daar is de dinges komt die kop  
there is that thin comes that head  
daar ook die tafel zitten ook kapot  
there too that table sit also broken  
deur ook  
door too  
als daar ook een ++ bezem  
if there too a sweeper  
bij is bezem trekken  
he is sweeper tear
The reinforcing ook in Ergun’s cycle 2, also indicates that all the things fall down at more or less the same topic time. The periphrastic construction BE+INF conveys an unbounded event of sweeping which includes the falling down of the beam event:

(7.16) ED 2.9
bij is bezem trekken
he is sweep tear
die komt ook dinges naar beneden
that comes also thing downside

In the retelling of this same dream house scene in Mahmut’s cycle 2, we see the productive use of a linguistic construction already discussed in section 6.3:

(7.17) MA 2.9
bij altijd vallen gedaan
he always fall done

The use of the frequency temporal adverbial (TAQ) altijd ‘always’ quantifies over several situation times, over several events of vallen gedaan ‘fall done’ and so conveys an iterativity reading. In this same retelling, intonation is used as the first sign of subordination:

(7.18) MA 2.9
bij deur open doen^en dan boven kop in
as he open the door, the beam falls on his head.
There are more instances of rising intonation (\(^\uparrow\)) featuring overlapping events:

\[(7.19)\] ED 3.9
\[
\begin{align*}
\text{die man is bellen} & \quad \text{bij heeft daar sigaretten pakken} \\
\text{that man is call} & \quad \text{he has there cigarettes take}
\end{align*}
\]
\[
\text{daar komt ook twee kind kijken} \\
\text{there comes too two children look}
\]

The progressive \textit{is bellen} ‘is call’ used by Ergun in the third cycle in combination with the rising intonation pragmatically serves to indicate simultaneity in the following way: the progressive construction signals the unboundedness of the first event \textit{is bellen}, which implies that the TT for which the calling event is asserted to be unbounded overlaps with the TT for which the post-state of the other event \textit{heeft daar sigaretten pakken} is asserted. This implies that the event \textit{is bellen} ‘is call’ is unbounded with respect to the post-state of second event, i.e., temporally includes the post-state of the second event.

The same reasoning goes for the following example \((7.20)\). Ergun (cycle 2) tells about the scene in which Charlie hits the policeman (again) on the head while the policeman is waking up:

\[(7.20)\] ED 2.9
\[
\begin{align*}
politie is zo opstaan & \quad \text{dinges op die hoofd komt} \\
police is so stand up & \quad \text{thing on that head comes}
\end{align*}
\]

The event is zo opstaan ‘is so stand up’ is unbounded/has no right boundary with respect to the dinges op die hoofd komt ‘thing on that head comes’ event and thus these two events are seen as being simultaneous.

\textit{Preliminary results}

The results of the analyses in the diagnostic post-state and simultaneity contexts show a straightforward form contrast between the basic long form, the construction proto-AUX [is + inf.], and the proto-AUX [heeft + pp] constructions. On the basis of the three defined conditions for narrative discourse, I assume that the basic long form functions as the default perfective notion for events of the main structure (focus condition). As the data have shown, the \textit{BE+INF} construction tends to function as an unbounded (Dutch-like) progressive form and the \textit{HAVE+PP} construction functions as a clear resultative state marker.

These are all contrasts of aspectual notions and not temporal contrasts. The only temporal contrast I observed was the use of a contrastive \textit{is} (cycle 2) \(<\textit{was} \) (cycle 3) by Ergun within the topic component of the utterance. The temporal contrast between a retelling narrated in the present (default) tense versus a retelling in the
past tense was clearly indicated by the change of time of the topic time shifter from present *en dan* ‘and then’ to past *en toen* ‘and then’. The change of the *is* copula into a *was* copula-like form in the third retelling must be triggered by the change in anchoring time in which the total retelling is established.

### 7.3.3 The concept-to-form analysis of the Moroccan main informants

The presentation of the diagnostics of Mohamed and Fatima’s retellings follows the same procedure I used for the presentation of the data of the Turkish main informants. There are two main parts. First, the presentation of the “I have stolen the bread” and the “I have found a house” scenes and the simultaneity contexts.

**(1) Marking the post-state; *Tsit < TT***

<table>
<thead>
<tr>
<th>FA 2.9</th>
<th>MO 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>scene V</strong></td>
<td></td>
</tr>
<tr>
<td><em>politie komt</em></td>
<td></td>
</tr>
<tr>
<td>police comes</td>
<td>Charlie says:</td>
</tr>
<tr>
<td><em>pakt die meisje</em></td>
<td><em>ik heb zelf die brood gepakt</em></td>
</tr>
<tr>
<td>takes that girl</td>
<td></td>
</tr>
<tr>
<td><em>die charlot zeg</em></td>
<td><em>en toen die politie pakken charlie</em></td>
</tr>
<tr>
<td><em>ik doen</em></td>
<td></td>
</tr>
<tr>
<td>that charlot says</td>
<td></td>
</tr>
<tr>
<td><em>I do</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 3.9</th>
<th>MO 3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Charlie zeg</em></td>
<td><em>toen hij loop in straat</em></td>
</tr>
<tr>
<td><em>ik zo steel de brood</em></td>
<td><em>toen was meisje heeft brood gestolen</em></td>
</tr>
<tr>
<td>Charlie says:</td>
<td><em>toen vrouw heeft haar gezien</em></td>
</tr>
<tr>
<td><em>I so steal the bread</em></td>
<td><em>toen die meisje gaat snel lopen</em></td>
</tr>
<tr>
<td></td>
<td><em>toen allebei vallen</em></td>
</tr>
<tr>
<td></td>
<td><em>then both fall</em></td>
</tr>
</tbody>
</table>

The basic form used for the perfectly narrated sequence of events is clearly the *root+t* form in Fatima’s retelling. It can be observed that Fatima’s linguistic repertoire is not efficient enough to express the difference between the events which happen more or less at the same time as the topic time (imperfective and
perfective aspectual viewpoint) and the events which are going to happen or which are already over at the topic time like the stealing of the bread.

The forms in the retelling of this scene again show how difficult it is to rely on forms alone; in one sequence in cycle 3, Mohamed uses two times heeft stelen 'has stolen' and once heeft gestelen 'has stolen' without a contrast in function. Mohamed is clearly in the middle of acquiring the past participle form of the verb and his stuttering reinforces the observation that he is creating complex forms. This juggling of forms is a clear indication that the learner is looking for a contrast to the basic form. However, in cases of the use of a past participle without a contrastive form of the same verb with a clear contrastive function available at the same stage of acquisition, it is difficult to judge whether the complex form is the result of a non-analyzed chunk or a real contrastive morphosyntactic construction.

So, in order to capture the real contrastive means for contrastive functions, it is better to rely on the use of the various “free” proto-AUX like imperfective BE and the perfective HAVE.

The difference between the imperfective proto-AUX is and the perfect heeft proto-AUX is far more transparent than the opaque morphosyntactic changes on the main verb like weglopen and weggelopen, zien versus gezien. This transparency could also be the reason that learners develop these free analytic proto-verbal forms. They contrast them in a transparent way from the default basic form. Consider example (7.22) where the contrast between prober los 'try (to get) loose' and heeft los 'has got loose' seems to be a contrast between an imperfective reading ‘trying to get it loose’ and a perfect resultative reading ‘now, I have got it loose’. The ‘free’ proto-AUX indicates that he (Mohamed) is in the resultative state of “getting it loose”:

(7.22) MK 2.9
toen die prober die los
then 'he' try that loose
heeft ie los met grote hamer
has 'he' got loose with big hammer

Also, in example (7.23) HAVE + PP indicates a post-state and is used in contrast to the default form illustrated in example (7.24) taken from the same retelling:

(7.23) MK 2.9
ik heb zelf die brood gepakt
I have myself that bread taken

(7.24) MK 2.9
a. en toen die politie pakken charlie
   and then that police take Charlie
b. en toen die politie pakken die meiije
   and then that police take that girl
In the following example in (7.25), the proto-AUX heeft in toen was meisje heeft brood stelen ‘then was girl has bread steal’ is in the focus part of the utterance, indicating the result of stealing:

(7.25) MK 3.9
toen was meisje heeft brood stelen
then was girl has bread steal

This example is one of the typical examples (like Ergun’s double is-construction, see section 7.3.2) of these learners using both a copula-like form of ‘to be’ which is marked for tense in the first part of the utterance and an aspectual marker in the second part of the utterance in front of the verb and its external arguments. It seems that learners put together what belongs together. The marking of the temporal location of the utterance is placed at the beginning of the utterance in order to have scope over the whole utterance. The proto-AUX is placed right before the predicate in order to encode the aspectual character of the predicate.

Another interesting diagnostic context wherein an aspectual post-state viewpoint is marked is the reference to the result of the change-of-state action “I have found a house”. Fatima and Mohamed both refer to the pure resultative state of the “looking for a house” event, which is, of course: ‘I have a house’ (in my possession; for the relation between possessive ‘have’ and resultative state ‘have’, see van de Craats 2001)

(7.26) I HAVE FOUND THE HOUSE

FA 2.9  MO 2.9  
meisje zeg van charlie  die meisje heeft charlie gezien
that girl has charlie seen
girl says from charlie
toen zij tegen hem  ik heb een huis
then she to him I have a house
ik heeft goeie praat voor jij  ik heb een huis
I have good talk for you I have a house
ik nou heeft huis
I now have house

FA 3.9  MO 3.9  
dan zij ook heeft huis  toen zij tegen hem: ik heb non woning
then she also has house then she to him I have now living

dan zij ook heeft huis
then she also has house

In the next part, I discuss how Fatima and Mohamed indicate that the events do not follow each other but that they happen at the same time. We will see that Fatima either skips the scene in which events happen simultaneously or cannot really express the fact that events are overlapping.

(2) Simultaneity; Tt1TT1, TT1 = TT2, and Tt1TT2

The first example of simultaneity is the “bumping” scene at the beginning of the retelling when the girl in flight bumps into Charlie (scene IV). Mohamed tells the story in cycle 2:
MK 2.9

toen zij gaat snel lopen maar zij kijkt achteruit toen zij tegen die man
then she goes fast walk but she looks behind then she against that man
maar een vrouw heeft die meisje gezien toen zij die brood gepakt
but a woman has that girl seen when she that bread taken
toen gaat tegen die meneer van die winkel; die meisje heeft jouw brood gepakt
then goes against that man of that shop; that girl has your bread taken
[then she goes walking fast but she looks behind, then she bumps into
that man, but a woman has seen that girl when she (has)
cought the bread
then the (she) goes to the man from the shop “that girl hast caught your
bread”]

The construction *gaat lopen* ‘goes walk’ in the first utterance could be tentatively
analysed as a prospective (Tsit > TT) marker as in the English ‘is going to’ + inf
construction. This *GO-INF* construction is used in contrast to the default
perfective marking and the proto-AUX *HAVE+PP* perfect marking. However, a
closer look to Mohamed’s usage of this form in the total discourse shows us that
it is, in Bohnemeyer’s (1998) terms, a typical phasal ingressive operator; it refers
to the initial boundary of the event. The construction *GO-INF*, used in this case
by Mohamed in combination with a subordinated *maar* ‘but’ utterance,
pragmatically serves to indicate simultaneity in the following way: The
construction *gaat snel lopen* ‘goes walk fast’ signals the unboundedness of the first
event *snel lopen* ‘fast walk’ as it refers only to the initial boundary of the event and
not to the final boundary. The *maar* ‘but’ indicates that the TT1 for which the
event *snel lopen* is ‘fast run’ is asserted to be unbounded overlaps with the TT2 for
which the other event *zij kijkt achteruit* ‘she looks behind’ is asserted. This implies
that the event *snel lopen* ‘fast run’ is unbounded with respect to the second event,
i.e., temporally includes the second event. In other words, *gaat* ‘goes’ is not a
prospective marking which indicates that the pre-state of the *snel lopen* event,
overlaps with the *kijkt achteruit* ‘looks behind’ event but this marking expresses
that when the snel lopen event has started, she’s looking backwards. Note that
Fatima, who has only a very limited repertoire says: Charlie en het meisje bos (botsen
is the Dutch word for bump) ‘Charlie and the girl bump’.

In Mohamed’s cycle 3 we see the same proto-AUX *GO* in the focus-constituent,
in the same part of the retelling (scene IV):

MK 3.9

toen die meisje gaat snel lopen
then that girl goes fast run
toen allebei vallen
then both of them fall

The ingressive operator makes the camera focus on the starting-point of the *lopen
walk* event and then somewhere in the middle of the flight, Charlie and the girl
bump into each other. In the scene where the camera lens focuses on the dream
house where all kind of little accidents happen at more or less the same time,
Mohamed uses for his description the same simultaneous events $\text{GO}+\text{INF}$ constructions where Ergun uses $\text{BE}+\text{INF}$ constructions (see also example 7.15).

(7.29) MK 3.9

\begin{verbatim}
toen hij moet binnen^met deur open^toen komt hout van boven op hem boofd
then he must inside^with door open^then comes wood from above on him head

toen hij gaat zitten op tafel^tafel is kapot
then he goes sit on table^table is broken

toen gaat ie bij de deur staan
then goes he at the door stay

toen hij valt naar achter
then he falls backward
\end{verbatim}

The $\text{GO}+\text{INF}$ constructions could be at best circumscribed as: “as soon as agens starts $\text{V}$”. This overlapping effect of unbounded events in a sequence is what Bohnemeyer refers to as the Boundary-to-Order implicature of the ingressive (and egressive) operator:

“Recollect that what ingressive and egressive operators select for assertion at TT is the initial or the terminal boundary of the target event, respectively. This may be the immediate viewpoint for the use of ingressive and egressive operators, but it is not the viewpoint assumed by the implicatures $\text{Tingr}$ and $\text{Tegr}$. The implicatures invited by an ingressive operator are to the unboundedness of the target event subsequent to the initial boundary, or to the ‘on-goingness’ of the target event prior to the initial boundary.” (1998: 115)

Interestingly enough, in the second cycle, Mohamed retells this dream-house scene (see example (7.30) below) with a lot of modal proto-AUX, which seem also to express a kind of unboundedness of the events. There is a difference with the $\text{GO}+\text{INF}$ construction in the sense that the modal proto-AUX wil ‘will’+ inf construction seems to function as a real prospective marking; it is not “sure” whether the event is actually going to happen. In $\text{hij wil zitten bij de tafel^de tafel valt}^\text{he wants to sit at the table^the table falls}$, the intention is to sit down. However, because the table collapses, Charlie does not succeed:

(7.30) MK 2.9

\begin{verbatim}
toen hij binnen^hij krijgt klap voor een hout
then (when) he inside^he gets hit from a wood

bij wil zitten bij de tafel^de tafel valt
he wants sit at the table^the table falls

bij doet een / hij wil een deur open toen hij valt in de water
he does a/he wants a door open then he falls into the water

en volgend dag
and next day

toen hij wil binnen^hij krijgt nog een klap
then (when) he wants inside^ he gets another smash

toen hij wil zitten bij de stoel^de stoel valt naar beneden
then (when) he wants sit at the chair^falls he downwards
\end{verbatim}
Finally, I want to mention Mohamed’s remarkable usage of the typically Dutch imperfective locative constructions, which consists of a locative AUX, *zitten te* ‘sit to’, *liggen te* ‘ly to’ and *staan te* ‘stand to’:

\[(7.31)\] MK 3.9
\[\text{toen politie gaatie uh politiebureau bellen}\]
then police goes/he uh police office call
\[\text{toen die politie staatie bellen’}\] hij heeft uh gaat ie naar winkel
then that police stays/he call he has uh goes he to shop

\[(7.32)\] MK 3.9
\[\text{toen hun zitie dromen als wij hebben zo een huis voor ons alleen}\]
then they sit to dream if we have such a house for us alone

Note the contrastiveness between the ingressive viewpoint marker *gaatie bellen* ‘goes-he call’ (the video-camera focuses on the beginning of the calling event) and the imperfective viewpoint marker *staatie bellen’ stays-he call’. This imperfective viewpoint marking makes the video camera focus on the policeman in the middle-of-the-action of the calling event. The observation that Mohamed uses this very Dutch-like imperfective marking can be an explanation for the fact that Mohamed does not use the *BE + INF* construction in order to mark imperfective like Ergun does. In the next section, I present an integrated picture of these detailed observations.

### 7.3.4 The results of the diagnostic contexts

On the basis of these concept-to-form analyses in the diagnostic contexts, I can now present a developmental overview of the emergence of the first morphosyntactic-like markings in this subset of the total corpus.

**The Turkish learners**

In his cycle 2 and his cycle 3 retelling, Mahmut shows no verbal differentiation, only basic long forms. He uses a few isolated past participles, but it is uncertain whether these are constructed participles or non-analysed chunks. Note that he uses no past participles of the verbs 2-state verbs *kopen* ‘buy’ and *vinden* ‘find’. He uses a past participle form of *lopen* ‘walk’ and *doen* ‘do’. This observation does not support the lexical aspect hypothesis which predicts first a prototypical perfect *HAVE + PP* construction for 2-state verbs with a clear visible post-state (see section 4.3.2).

Ergun uses three contrastive forms: (1) the basic long form, (2) the *BE + INF* construction, and (3) the *HAVE + PP* construction. Ergun uses the *BE + INF* construction in diagnostic contexts of simultaneity conveying an imperfective viewpoint. He uses the *HAVE + PP* constructions in marking the post-state of events conveying a perfect viewpoint. Only in Ergun’s third cycle does a past tense marker was emerge. This marker emerges at the same time as the past topic time
shifter *en toen* occurs. They both occur only within the topic component of utterances.

*The Moroccan learners*

Fatima sticks with the basic short forms till the end of the study. In the second cycle, Mohamed uses the following contrastive forms: (1) the basic short form, (2) the *have* + PP construction for the diagnostic post-state scenes, (3) the *go* + INF as an ingressive construction, and (4) the locative proto-AUX [*staan te/zit te 'stay to'/ 'sit to'+ inf*] constructions as a pure imperfective “in-the-middle-of-the-action” marking. The (5) modal proto-AUX are used for the prospective/hypothetical expressions. However, in contrast to Ergun, Mohamed already uses the past tense *was* and *en toen* in the second cycle, both in the topic component.

On the basis of Bohnemeyer’s list of aspectual operators (1998; see section 2.3.3), I present the following list (see Table 7.2) of the earliest proto-verbal markings used by the Moroccan and Turkish main informants of the present study for retelling Modern Times:

*Table 7.2* The emergence of the earliest morphosyntactic-like markings as observed in the diagnostic contexts of the Modern Times retellings by two main Dutch informants

<table>
<thead>
<tr>
<th>aspectual viewpoint</th>
<th>Turkish Ergun</th>
<th>Moroccan Mohamed</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycle 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfective default</td>
<td>long form</td>
<td>short form</td>
</tr>
<tr>
<td>imperfective/unboundedness</td>
<td>BE + INF</td>
<td>locative proto-AUX: <em>staan te/zit te</em></td>
</tr>
<tr>
<td>pre-state</td>
<td>-</td>
<td>modal proto-AUX  <em>wil/kan/moet</em></td>
</tr>
<tr>
<td>post-state</td>
<td>HAVE + PP</td>
<td>HAVE + PP</td>
</tr>
<tr>
<td>ingressive</td>
<td>-</td>
<td><em>go</em> + INF</td>
</tr>
<tr>
<td>egressive</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>past tense</td>
<td>-</td>
<td><em>was</em></td>
</tr>
<tr>
<td>cycle 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfective default</td>
<td>long form</td>
<td>short form</td>
</tr>
<tr>
<td>imperfective/unboundedness</td>
<td>BE + INF</td>
<td>locative proto-AUX: <em>staan te/zit te</em></td>
</tr>
<tr>
<td>pre-state</td>
<td>-</td>
<td>modal proto-AUX  <em>wil/kan/moet</em></td>
</tr>
<tr>
<td>post-state</td>
<td>HAVE + PP</td>
<td>HAVE + PP</td>
</tr>
<tr>
<td>ingressive</td>
<td>-</td>
<td><em>go</em> + INF</td>
</tr>
<tr>
<td>egressive</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>past tense</td>
<td><em>was</em></td>
<td><em>was, kwam, liep</em></td>
</tr>
</tbody>
</table>
It is difficult to give general conclusions on the basis of these data coming from only a sub-set of the total database, particularly because only two informants develop some verbal differentiation. Therefore, I decided to make a comparison with other (additional) informants performing the same communicative task and with another type of data (personal narratives) which I will describe in the following section.

7.4 Comparison with other data

In this section, I first compare the observations of the main informants in the diagnostic contexts to observations of the additional informants Osman (a Turkish learner) and of Hassan K (a Moroccan learner) in the same diagnostic contexts. These two learners also show some verbal differentiation (section 7.4.1). Then, personal narratives from the main informants Ergun and Mohamed are included in the comparative analyses (7.4.2).

7.4.1 Comparison with additional informants

First of all, I have to note here that only the cycle 2 retellings are available for the Turkish additional informants and not the cycle 3 retellings. In example (7.33), Osman, the Turkish (additional) learner, retells the “I have stolen the bread scene” as follows:

(7.33) OS 2.9

ezíj pakt brood
she takes bread
en andere vrouw heeft gezien
and other woman has seen
en roept die man
and calls that man
Charlie zegt: hij(=zíj) heeft helemaal niks gedaan
Charlie says: he has nothing done
ik heb weggehaald die brood
I have taken away that bread
en ja die brood is hier
and yes that bread is here
(...)
die man zegt hij heeft helemaal niks gedaan
that man say he has nothing done
zíj heeft weggehaald doen
she has taken away done

With respect to the marking of post-state, it is clear that in the sequence of utterances en andere vrouw heeft gezien en roept die man ‘and other woman has seen and calls that man’, Osman puts the “calling event” roept die man in the post-state of the “seen event” heeft gezien by means of a HAVE+PP construction. As in the
retellings of the main informants, Osman also uses reported speech in order to let Charlie (with the bread in his hands *hier* ‘here’) say: ‘*Ik heb weggehaald die brood*’ ‘I have taken away that bread’.

In order to convey simultaneity, Osman, like Ergun and Mahmut, uses the adverb *ook* ‘too’ in a productive way. In the following example, we see that, at the same time that she (=the girl) walks on the street, ‘that other man’ also arrives on the street.

(7.34)  OS 2.9

*zij loopt op de straat en die andere man ook komt bij hem*

she walks on the street and that other man also comes to him

Note that at cycle 2, Osman has already passed the stage of using only long forms as the default basic form. He uses most verbs with person agreement.

**Hassan K**

In example (7.35) a Moroccan learner of Dutch, Hassan K, shows that, at the second stage he already can use the past tense marking *was*. Note that he, unlike Mohamed, does not use the past topic time shifter *en toen*. Looking at the structural embedding of the proto-verbal elements, we see that Hassan K puts the past tense marking *was* in the topic component, before the “subject”. The aspectual perfect marker is placed in front of the predicate, in the focus component. These are the same structural embeddings the main informants Ergun and Mohamed use (see section 7.3):

(7.35)  HK 2.9

*dan was die man van die heroine heeft pistool ge...vatten*

then was that man from that heroine has pistol taken

The same structural embedding holds for the retelling of the “she has stolen the bread” scene:

(7.36)  HK 2.9

*die was lopen in de straat*

she was walk in the street

*dan was die vrouw zeg tegen de bakker*

then was that woman say to the baker

*die man was niet gepikt, die mei....e*

that man was not snatch, that girl

However, there is a remarkable difference in Hassan K’s retelling: He also puts the imperfective proto-AUX is in the past tense *was* (in the focus component): *die was lopen in de straat* ‘she was walk in the street’.
Hassan K, just like Mohamed, also uses a periphrastic linguistic expression in order to mark the begin-state (ingressive) of an event: \textit{begint te} ‘begins to’.

(7.37) \begin{tabular}{l}
\text{HK 2.9} \\
\text{dan die politie hij begint beetje wakker} \\
then that police man he begins to awake \\
\text{dan charlie slaan met die hout} \\
then charlie hit with that wood
\end{tabular}

Consider Hassan K’s retelling of the “I have found a house” scene:

(7.38) \begin{tabular}{l}
\text{HK 2.9} \\
\text{die was de meisje was zoek een huis} \\
that one was the girl search a house \\
\text{dan was uh heeft de huis} \\
then was uh has the house
\end{tabular}

We see that almost in parallel to Ergun’s imperfective Turkish-Dutch constructions \textbf{BE}+\textbf{INF}, Hassan K uses a \textit{past was}+ short form construction here: \textit{was zoek, was heeft}. This is again an example of how these learners seem to unpack the informational elements of the complex verbal Dutch forms into one-to-one mappings of form and function. Hassan K tears apart the components of the complex Dutch past tense form. He uses one form for the past tense indication (\textit{was}) and another form for the semantic meaning of the verb (\textit{zoek, heeft} in the meaning of ‘in possession of’).

The final examples I want to consider here are other examples of Hassan K’s proto-AUX, which in a rather analytic way express the aspectual viewpoint on the events and thereby imply the simultaneity between the events. Like Mohamed, Hassan K, in cycle 3, uses several linguistic constructions for marking a progressive/imperfective viewpoint on events: the durative \textit{blijf ‘stay’} + inf construction, the ingressive \textit{begint te} ‘begins to’ + inf construction, and the \textbf{GO}+\textbf{INF} construction:

(7.39) \begin{tabular}{l}
\text{HK 2.9} \\
\text{dan die meisje blijf alleen lopen in straten} \\
then that girl stay alone walk in streets \\
\text{en die vrouw gaat tegen die man zeggen} \\
and that woman goes to that man say \\
(\ldots) \\
\text{hij begint van haar te houden} \\
he begins her to love
\end{tabular}

In the next section, I present a longitudinal overview of personal narratives of the main informants in order to see whether reflections of the same morphosyntactic development can be detected in this other type of data.
7.4.2 Comparison with personal narratives

The personal narratives I am going to discuss in this section are the same as the ones I already used for the concept-to-form analyses in the lexical stage (see chapter 5, table 5.5, second column). I discuss only the data from Ergun and Mohamed in which some morphosyntactic-like development can be detected. Fatima and Mahmut stay with basic forms and some isolated past participles. I want to start with a portion of a personal narrative already shown at the beginning of chapter 6. Ergun is telling the interviewer what he has done today:

\[(7.40)\]  
\[
\begin{align*}
\text{vandaag hoofdpijn} & \quad \text{today headache} \\
\text{ik ga niet naar fabriek} & \quad \text{I go not to factory} \\
\text{ik vannemorgen} & \quad \text{I this morning} \\
\text{half negen ik bellen} & \quad \text{half past eight I phone} \\
\text{ja ik komt niet vandaag} & \quad \text{yes I come not today} \\
\text{ik ben ziek} & \quad \text{I am sick} \\
\text{vandaagavond zes uur} & \quad \text{today evening six o’clock} \\
\text{ik heb slapen} & \quad \text{I have sleep} \\
\text{dan klein beetje lopen} & \quad \text{then a little bit walk} \\
\text{dan ik gaan naar cafeé of zo} & \quad \text{then I go to pub or so}
\end{align*}
\]

There is one contrastive form to the basic long forms: the occurrence of a proto-AUX \(+\) INF construction (at this time of the data collection, he did not yet have the past participle form of slapen). It is clear from the diagnostic contexts that the proto-AUX have is a post-state indicator:

\[(7.41)\]  
\[
\begin{align*}
\text{vandaagavond zes uur} & \quad \text{today evening six o’clock} \\
\text{ik heb slapen} & \quad \text{I have sleep}
\end{align*}
\]

After the detailed concept-to-form analyses of the Modern Times diagnostic contexts, it is now possible to interpret this utterance: at the explicit topic time vandaagavond zes uur, Ergun is in the post-state of having slept for a while. Ergun expresses the post-state by the have +inf construction in the focus-component of the utterance.

**Cycle 1**

In the personal narratives of the first cycle, Ergun still uses nothing other than base forms. The events are bounded by the use of the topic time shifter en dan and embedded in time via explicit specifications of topic times TT or times of situations Tsit:
In his personal narrative a few sessions (about ten weeks) later, I detected a **HAVE + PP** construction:

(7.43) **ED 1.8**

**INT:** Wat heb je afgelopen weekend gedaan?

What did you do over the weekend?

**ED:** andere discotheek beetje wandelen

other disco little walk

en stadplein daar zitten

and city-place there sit

en cola + koffie drinken

and cola + coffee drink

zaterdag ik voetbal spelen

Saturday I football play

(...) en + ik **beb** drie keer spelen

and + I have three times play

en dan de knie pijn

and then the knee pain

**INT:** oo meniscus

**ED:** ja meniscus + die niet voetballen/nou niet voetballen

yes meniscus that not football play/now not football play

nou ik niet voetballen

now I not football play

In example (7.43) we see that the same viewpoint aspect is marked (e.g., default perfective) for different topic times. Past: ‘last Saturday’ TT < TU versus present: ‘now’ TT = TU. As in:

(7.44) **ED 1.8**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT &lt; TU</td>
<td><strong>Saturday</strong> I play</td>
</tr>
<tr>
<td>TT &lt; TU</td>
<td>I have three times play</td>
</tr>
<tr>
<td>TT &lt; TU</td>
<td>then the knee pain</td>
</tr>
<tr>
<td>TT = TU</td>
<td>now I not football play</td>
</tr>
</tbody>
</table>

In (7.42) **ED 1.2**

**INT:** Wat heb je afgelopen weekend gedaan?

What did you do last weekend?

**ED:**

- zaterdag turkse jongen allemaal be centrum

  Saturday turkish boys all city

  en dan kaart spelen en dan + tafel/tafelvoetbal spelen

  and then cards plays and then football play

  en dan vijf uur + huis

  and then five o’clock home

  en dan een een half half zeven/six o’clock

  and then eat six oclock/half past six/six o’clock

  en dan terugkomen

  and then come back

  en dan discotheek gaan naar

  and then discotheek go to
Although there is a change in the global TT-TU relation from past zaterdag ik spelen to present nu ik niet spelen, no tense contrast is marked in the verbal forms ik spelen ‘I play’ and nu ik niet spelen ‘now I not play’. The default perfective viewpoint stays the same and so the two verb phrases are both in the basic (perfective) long form. This example also gives us the diagnostics of one and the same topic time ‘last Saturday’ whereby two different viewpoints are marked: one Tsit at TT which is marked ik spelen and one TT after Tsit which is marked as ik heb drie keer spelen. To use the video camera metaphor again, the video camera in ik heb drie keer spelen focuses on the post-state of playing soccer which resulted in a knee injury, not on the soccer game itself. In sum, this is supporting evidence for the grammatical aspect (marking) before the grammatical tense (marking) hypothesis.

Cycle 2
In the following cycle 2 personal narrative, the perfect HAVE+PP construction is consistently used by Ergun, despite the fact that, for this typical post-state view “are you in the post-state of having been to Konya?” the interviewer uses the Dutch target AUX of ‘to be’ (instead of ‘to have’) together with the past participle geweest ‘been’.

(7.45) ED 2.4  
INT: konya is ook mooi Heb je daar wel als geweest?  
konya is also beautiful be, have you been there?  
ED: nee ik heb niet daar geweest  
(... now I not there been  
INT: die moet ik toch wel zien heb of niet?  
these must I surely seen or not?  
ED: ja want ik wel + ik heb zien  
yes I know + I have seen

Cycle 3
Consider example (7.46) where Ergun uses one clear past tense marking was at the beginning of the narrative in order to embed the total narrative in the past (global TT < TU). As could be predicted from the diagnostic contexts, this tense marking is placed in the topic constituent of the first utterance:

(7.46) ED 3.8  
en toen was nog een keer de politie nog een keer komt achter mij  
and then was again that police again comes behind me  
dan moet rechtstaan  
then must right turn  
ook die rijbewijs vragen  
also that driving license ask  
wij hebben net/wij hebben ik heb gezegd:  
we have just said/ I have said  
wij hebben net ge/die andere politie gepakt  
we have just that other police caught
or the next problem we have in this little village
we have there four hours wait
[then, again the police came after me, we had to go to the right side of the road and he asked my driving license. We said: “we just have had other police men after us and now again we have a problem in this little village. We had to wait there four hours”].

The have+pp constructions above are nice examples of post-state aspectual viewpoints in contrast to the other verb phrases which are in the basic long form. This have+pp construction in combination with the temporal adverb net ‘just’ gives the idea of being in the post-state of something which just has happened.

MOHAMED

Cycle 1

In Mohamed’s first personal narrative, he tells about his work experience and it is clear that he needs explicit temporal adverbials in order to locate his experiences in time. There are no indications of emerging tense or aspect marking. He uses only basic short forms:

(7.47) MK 1.2
INT: en uh heeft u daar ook uh gewerkt?
and uh did you work there also?
MO: ik werk niet
I work not
ik uh voor zes maand^ ik uh ik komt hier uh een maart twe-entacht<tig>
I uh for six months” I uh I comes here first March eighty-two
[ I don’t work. I arrived here 6 months age on the first of March 1982]

Cycle 2

In Mohamed’s cycle 2 personal narrative, we see that he, like Ergun, is only capable of marking the copula ‘to be’ in the past tense. The rest of the verb phrases are in the basic short form.

(7.48) MK 2.1
september uh + tweentaachtig he?
september eighty-two?
ik was/ik was ikke/ik was terg uit marokko
I was/ I was/ back from Morocco
ik was vakantie he terg tweentaaktig sept/augustus
I was vacation back twenty-two sept/august
ik heb geen werk
I have no work
ik ga naar uh <weeweewe>
I go to <weeweec>
ik was ah twee februari ik werk tot uh acht uh juli he
I was two february I work til eight july
dan ik ga vakantie twee maanden be
than I go vacation two months
[In September eighty two I came back from Morocco, I came back from
vacation the 22nd of Sept/August and I had no work. I went to
unemployment benefit (organisation) and I worked from the 2nd of
February to the 8th of July. Then I went on vacation for two months]

Cycle 3
The last personal narrative I want to consider here is Mohamed’s final personal
narrative about the return trip from his last holiday. It shows an almost target-like
Dutch tense and aspect system. In this portion of discourse we see a clear
functional verbal differentiation which indicates a past tense: was in the first
utterance (just like in Ergun’s last example 7.46). Furthermore, I detected a:

- clear post-state aspectual viewpoint Ik heb hele nacht in Frankrijk gereden, Ik was
  om zes uur in Parijs ‘I have been driven the whole night through France and
  then -in the post-state of the driving event- I was in Paris’;
- an ingressive aspectual viewpoint beginnen te ‘begin to’ toen ik en hem beginnen
  te drinken;
- a modality expression by the deontic proto-AUX moet ‘must’;
- a past tense in the plural form waren (= Dutch waren) ‘were’, which is an
  attempt to put the copula ‘to be’ both in the plural and in the past;
- an ingressive aspectual viewpoint (in the past tense!) kwam zitten ‘came to sit’:

(7.49) MK 3.5

    ik heb/ik was in *frontiere* spanje frankrijk
    I have/I was in frontiers Spain France
    ik heb hele nacht in frankrijk gereden
    I have whole night in France driven
    ik was om zes uur om half zes in uh Parijs
    I was at six at half past six in Paris
    (…) met oom in de auto peugeot
    with uncle in the car peugeot
    toen ja ik en hem beginnen te drinken
    then yes I and him begin to drink
    (...)
    toen <mij>oom hij heeft slaap he
    then my uncle he has sleep
    <moet jij stoppen>
    must you stop
    wij <waren > bij parkeer tegen mij:
    we were at a parking to me
    <ik heb slaap>
    I have sleep
    rader kwam bij mij zitten
    father came sit to me
    toen ik rijen ik heb slaap he
    then I drive I have sleep
[I was at the France-Spain frontiers and I had driven the whole night. I was at half past six in Paris, with my uncle in a car. We started to drink. Then my uncle got sleepy. He said “we must stop”. We were at a parking. “I am sleepy”. My father came to sit next to me then I have driven till I got sleepy].

Let us now compare these detailed analyses with more global analyses of these early morphosyntactic-like forms. First I will present quantitative results of the correlation between a particular type of verbal construction and a particular semantic type of verb (0-, 1- or 2-state) in the Modern Times retellings. Then I will show some developmental overviews of verbal forms over the total database for each main informant.

7.5 Global quantitative analyses

Thus far, the developmental trends observed in the diagnostic contexts (described in table 7.2) are corroborated by what we have seen in the personal narratives: The first indications of a verbal differentiation are proto-AUX + V constructions and they clearly express viewpoint aspect distinctions and not tense distinctions. This is supporting evidence for the grammatical aspect before grammatical tense hypothesis. Furthermore, these analyses all corroborate my hypothesis (see section 5.1.2) that the first morphological contrasts on or around the verb are indicators of grammatical aspectual viewpoint contrasts in order to handle topic time management.

In this section, I will turn to more global analyses which are essential for the interpretation of the results described above. The first analysis concerns one of the factors which possibly determines the earliest form-function mappings of proto-verbal tense and aspect markings: lexical aspect. What is the role of the inherent lexical features of verbs for the first emerging verbal differentiation? Do the learners use a particular type of proto-AUX + V construction for a particular lexical aspectual class of verbs? Or, is the type of aspectual viewpoint on the event the only factor that counts for using a particular type of proto-AUX + V construction? In section 7.5.1, I present the distribution of particular verbal forms over particular semantic types of verbs in the Modern Times retellings of the main informants.

The second analysis checks the first occurrences of the past participles and the past tense forms for each informant in the total data-base. On the basis of a concordance analysis of all the verbal forms used in the total data-base, it was possible to detect these first occurrences (section 7.5.2). This same concordance analysis allows the presentation of a longitudinal development of the verbal forms by the main informants at different stages of acquisition (section 7.5.3).
7.5.1 Checking the lexical aspect hypothesis

As already discussed in section 4.1.3, the observation of a close association between the inherent aspectual semantics of verbal predicates and verb morphology in the emergence and development of grammatical tense and aspect marking in first language acquisition, creolization, and in both spontaneous and instructed second language acquisition has often been taken as an acquisitional universal (e.g. Andersen 1987, 1991, Robison 1990, Bardovi-Harlig 1992, 1998). Abstracting away from the details, the findings of this body of research were summarized as follows in section 4.2.2 (see Housen 1994):

(a) Verb morphemes which in the TL mark pastness, anteriority, and/or perfectivity first appear with inherently punctual and/or telic verbs (2-state verbs). Later they gradually spread to durative and atelic verbs (1-state verbs).
(b) Verb morphemes which in the TL mark imperfectivity (e.g., progressivity) first appear with inherently durative and/or stative verbs (i.e., 1-state verbs). Later they gradually spread to dynamic and punctual verbs i.e. (2-state verbs)

Within the context of the present study, this implies that, given the results of the diagnostic contexts, I had to carry out the following analyses, investigating whether:

(a) the target Dutch perfect construction HAVE + PP first appears with 2-state verbs such as kopen, vinden, pakken ‘buy, find, take’, regardless of the aspectual viewpoint.
(b) the (almost standard Dutch target-like) imperfective/progressive construction BE + INF first appears with 1-state verbs regardless of the aspectual viewpoint.

The only way to investigate this is to conduct quantitative analyses on the correlation between the lexical aspect of a verb and its type of verb morphology proto-AUX + V. Then, looking in context, I had to find out whether there was a correlation between the type of verb morphology and its aspectual viewpoint in the context. I checked this latter function-form correlation on the basis of the diagnosis from the diagnostic contexts.

Let me start by mentioning the results of the quantitative form-to-concept analyses of the Modern Times film retellings, summed up in table 7.1. above. This table showed that Ergun, in the second cycle, uses the construction proto-AUX HAVE + PP construction four times and in the third cycle he uses it fifteen times. He uses a BE + PP construction 6 times. These are typical cleft constructions such as zij is die weggedaan ‘she is the one that has left’. There are no instances of proto-AUX HAVE + INF constructions, but there are 25 (cycle 2) and 18 (cycle 3)
instances of a proto-AUX BE + INF construction. All the modal proto-AUX are used in combination with an infinitive:

- Note that Ergun uses a was + INF construction three times in cycle 3.
- Mahmut only uses bare past participles in contrast to basic long forms, and a modal proto-AUX + inf construction (never with past participles) ten times (total).
- Mohamed uses the proto-AUX HAVE + PP construction 38 times in total. The modal proto-AUX are all used in combination with an infinitive.
- Fatima uses only bare pp and all the proto-AUX in combination with an infinitive/long form. Note that this is remarkable because the base form of the Moroccan learners is the short form.

These results indicate straightforwardly the tendency for the proto-AUX BE and the modal proto-AUX to be used in combination with infinitives in contrast to the proto-AUX HAVE which is used in combination with the past participle. This is a target-like distribution. The verbal forms used in the (diagnostic) narratives in section 7.4 above also indicate that in this particular type of narrative discourse:

- bounded perfective events in a sequence are expressed by the default basic form;
- unbounded imperfective events in a sequence are expressed by the imperfective/progressive BE + INF construction by Ergun and Osman and by the intransitive GO + INF and blijft ‘stay’ + inf construction by Mohamed and HassanK and by the locatives staat te/zit te ‘stay/ly’ + inf construction;
- events which are (possibly) going to happen (pre-state) are expressed by the modal proto-AUX: wil, moet, mag, kan + inf construction;
- events which have already happened (post-state) are expressed by the post-state marker HAVE + PP;
- learners who want to embed their personal narratives or film retellings in the past, use as their only clear-cut past tense marker, the copula of ‘to be’ in the past tense was.

In short, these results illustrate a one-to-one mapping of a particular proto-AUX + V construction to a particular viewpoint aspect. The next step is to see if viewpoint aspect is the only trigger of a particular proto-AUX + V construction. In order to investigate the relationship between the lexical aspect of the predicate and the type of proto-AUX used, I coded (see section 7.1) the category of the predicates in the film retellings as a 0-, 1- or 2-state predicate and the type of proto-AUX (BE, HAVE, GO, and modal proto-AUX).
Table 7.3 Results of the correlation between lexical aspect types and verb morphology in MT film retellings.

<table>
<thead>
<tr>
<th></th>
<th>ergun</th>
<th>mohamed</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycle 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-state</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2-state</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>4(2x2)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>cycle 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-state</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2-state</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

In short, Ergun’s imperfective BE + INF construction is, in cycle 2 and in cycle 3, more often used with 2-state verbs than with 1-state verbs. The four uses of the perfect HAVE + PP construction all occur with 2-state verbs in cycles 2 and 3. There are two 1-state predicates with proto-AUX HAVE (heeft slapen ‘has sleep’ and heeft zitten ‘has sit’). In cycle 3, the modal proto-AUX + V constructions take 1-state verbs and 2-state verbs. The rest of the verb phrases show up in the basic long form.

In cycle 2, Mohamed uses quite a few basic short forms. Both the unbounded constructions and the post-state HAVE + PP constructions are only used for 2-state predicates in cycle 2. In cycle 3, the unbounded verbal forms are more often used for 1-state predicates and almost all of the HAVE + PP constructions are used for 2-state predicates. The modal proto-AUX constructions are used equally for 1-state and 2-state predicates.

These preliminary results, based on only part of the total corpus, show the general trend that the perfect HAVE + PP construction first occurs in 2-state verbs, as the lexical aspect hypothesis predicts. However, it is not the case that the verb forms of 2-state verbs like kopen ‘buy’ en vinden ‘find’ with clear visible post-states, only occur in this perfect form. They start in basic short and long forms as can be seen in the earliest personal narratives by Ergun and Mohamed. In addition, the retellings of the slow learners Mahmut and Fatima provide sufficient evidence that these 2-state verbs are first used in the default long and short form. It is only in a later stage, when Ergun and Mohamed acquire the productive HAVE + PP construction that the perfect construction is used for these typical 2-state verbs.
This is an important observation, as hebben+ gekocht ‘bought’ and hebben + gevonden ‘found’ seem not to be initially learned at first as non-analysed chunks because of their frequency in the input in precisely this form. Moreover, these same 2-state verbs are also used in the typical unbounded constructions be/go/locative AUX + inf, the basic forms, and in the modal proto-AUX + V constructions. This means that in actual production, learners are capable of using the (un)bounded form required in discourse. Or, as Bardovi-Harlig (1998: 501) has already pointed out:

“Although the basic semantic features of predicates attract verbal morphology with the same features, in actual production, these inflected predicates are pressed into the service of communication, and may take on features appropriate to the narrative structure, thus going beyond the most basic predicate-level pairing of verbal and morphological features. A point of departure for future research is the understanding that interlanguage temporal systems are shaped by both the semantics of the lexical aspect and the pragmatics of discourse.”

In the next section, a longitudinal overview is provided of all the proto-verbal constructions over time to see which proto-verbal construction occurs first and how many times.

7.5.2 The development of verbal morphology over time

In tables 7.5 to 7.8 below, I present a developmental overview of all the verbal forms used by the main informants of Dutch in the total database. On the basis of a concordance analysis it was possible to count all the verbs and the forms they occurred in. This total overview corroborates my findings in the Modern Times data set. First of all, we see that Fatima and Mahmut are “slow” learners indeed. They both do not develop a systematic verbal differentiation: practically no past participles and no past tense forms. From the detailed data-analyses of the Modern Times and the personal narrative data, it is known that the few past tense forms of Fatima are non-analysed chunks and the same holds for most of Fatima’s and Ergun’s past participles. Most of them occur without an auxiliary. Furthermore, it can be observed that the basic forms of Fatima and Mohamed are the root forms indeed. Note that Mohamed uses from the onset of the data collection also a lot of long forms. The Turkish-Dutch basic form is the long form (root + er). Note the great difference in amount of verbal forms between the Turkish-Dutch and the Moroccan-Dutch data.
Table 7.5 Developmental overview of the occurrences of verbal forms used by Fatima; the 27 sessions are aggregated in 9 consecutive intervals of 3 sessions.

Table 7.6 Developmental overview of the occurrences of verbal forms used by Mohamed; the 27 sessions are aggregated in 9 consecutive intervals of 3 sessions.
Table 7.7  Developmental overview of the occurrences of verbal forms used by Mahmut; the 27 sessions are aggregated in 9 consecutive intervals of 3 sessions

Table 7.8  Developmental overview of the occurrences of verbal forms used by Ergun; the 27 sessions are aggregated in 9 consecutive intervals of 3 sessions
7.6 Conclusion and discussion

In this chapter I have shown two important results with respect to the acquisition of verbal morphology in the second language acquisition of Dutch. First, it was shown that free proto-verbal auxiliary-like elements in the focus constituent of the utterance were the first indications of a creative verbal differentiation. To be more precise, the construction proto-AUX \textsc{have}+\textsc{pp} was the first contrastive verbal form to the basic form. It turned out that the proto-AUX \textsc{have} all cluster with a main verb in the past participle form (\textit{voltooid deelwoord ‘accomplished participle’} in Dutch,) and that the proto-AUX \textsc{be} and \textsc{go}, the locative proto-AUX \textsc{zit te}, \textsc{staat te} ‘sit’, ‘stay’ and the modal proto-AUX all cluster with a basic long form. Furthermore, I observed that only later on in the development of verbal morphology, the past tense marking, which is in Dutch part of a complex (finite) form, is also spelled-out in a free proto-verbal marking \textsc{was} and a main verb in the basic form.

This is the formal part of the question and thus these observations answer the first research question as posed in the introduction to this chapter: How do the learners of the present study enter the target tense and aspect system? Or, to say it in other words, what are the first verbal forms which contrast to the base verbs? But what about the semantic dimension of temporality: What are the meaning contrasts of early contrastive proto-verbal forms? Seen the three hypotheses mentioned in section 5.1.2, I investigated first, whether the first proto-AUX had an aspectual (aspect before tense hypothesis) or a temporal meaning (tense before aspect hypothesis, I will come back later to the lexical aspect hypothesis). To this end, I carried out an in-depth analysis of some well-defined diagnostic contexts. This analysis allowed me the following diagnosis: the various contrastive “unpackaged” proto-AUX constructions were used as indications of contrasts of viewpoint aspect and not as markings of tense. After all, it has been seen that two different aspectual viewpoints are marked differently for situations described within the same global (imaginary) TT-TU condition of the Modern Times retelling:

\begin{equation}
\text{(7.50)}\quad \text{ED 2.9}
\end{equation}

\begin{itemize}
\item[(a)] \textit{die man hier is gewoon werk aanvragen} \\
\hspace{1cm} that man is just work ask
\item[(b)] \textit{dan is hij heeft werk aanvragen} \\
\hspace{1cm} then is he has work ask
\end{itemize}

In utterance (a) the imperfective is marked by the proto-AUX \textsc{be}+\textsc{inf} construction and the perfect in utterance (b) is marked by the proto-AUX \textsc{have}+\textsc{pp} construction. This difference in marking of different aspectual viewpoints is even more clearly showed in the following example in which it can be seen that at the same deictic topic time ‘last Saturday’ two different viewpoints
are differently marked; one Tsit at TT (ik spelen ‘I play’) and one TT after Tsit (ik heb drie keer spelen ‘I have three times play’).

(7.51) ED1.8

<table>
<thead>
<tr>
<th></th>
<th>TT</th>
<th>TT at Tsit</th>
<th>Saturday I play</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>zaterdag</strong></td>
<td>TT&lt;TU</td>
<td>TT at Tsit</td>
<td>I have three times play</td>
</tr>
<tr>
<td><strong>ik heb drie keer spelen</strong></td>
<td>TT&lt;TU</td>
<td>TT at Tsit</td>
<td>I have three times play</td>
</tr>
<tr>
<td><strong>dan ik de knie pijn</strong></td>
<td>TT&lt;TU</td>
<td>TT at Tsit</td>
<td>then the knee pain</td>
</tr>
<tr>
<td><strong>nou niet spelen</strong></td>
<td>TT=TU</td>
<td>TT at Tsit</td>
<td>now I not football play</td>
</tr>
</tbody>
</table>

This example shows that the video camera in *ik heb drie keer spelen* is focused on the post-state of playing soccer which resulted in a knee-injury (TT after Tsit). Note that at two different temporal locations the form of the verb stays the same: At the past topic time TT ‘last Saturday’ and at the present topic time TT ‘now’ the verb *spelen* ‘play’ is both in the default long form. There is no formal contrast which could indicate a tense contrast.

In short, here is a clear aspectual differentiation which was mainly determined by narrative structure, that is, by the viewpoint aspect on the situations, defined as the relation between the topic time TT and the time of situation Tsit. I consider the use of proto-AUX as a spelling-out of the target Dutch complex verbal forms in two analytic compounds with each having a clear meaning; the proto-AUX as the marking of the viewpoint aspect (the relation between TT and Tsit) and a main verb as a carrier of mainly the semantic features of the event. With respect to the position of the first proto-verbal elements, I have shown that proto-AUX all occur in the focus component of the utterance and proto-COP occur in the topic component of the utterance. Mohamed, Ergun, Hassan K and Osman all put the proto-AUX of *have* and *be* in the focus component adjoined to the main verb describing the event. Close to the verb these proto-AUX clearly indicate the aspectual character of the event. In contrast, the proto-COP *be* always occurs before the subject, making part (together with the subject and a possible adverbial of time) of the topic component. In this utterance-initial position the tense contrast *is* versus *was* can have scope over the total utterance. This observation answers the third question: is there a one-to-one mapping of meaning, form and position in these early tense and aspect morphemes?

The final research question concerns the role of the different factors that shape and drive the development of verbal morphology. In chapter 5, I discussed in section 5.1.2, three different factors that determine the meaning, the position and the form of the earliest verbal deviation: (1) the lexical aspect category of verbs, (2) the semantic, structural and formal characteristics of the source language and (3) the semantic, structural and formal characteristics of the target language.

Seen the position of the various proto-AUX in the focus component of the utterance near the verb, the idea behind the structural embedding of the earliest proto-AUX seems to be that learners “simply” put together what belongs together. They are not sensitive to the morphosyntactic language-specific rules of the source.
and the target languages. This principle becomes even more transparent in case of two proto-verbal elements in one utterance like in example (7.50 b) above. Despite the morphosyntactic rules of the source (Turkish and Moroccan, see section 3.1) and target (Dutch and French, see section 3.2) languages, learners (Ergun and Hassan K) put an indication of tense in the topic component to have wide scope over the total utterance and on top of that an indication of aspect in the focus component, close to the verb in order to express the aspectual character of the event. This language-neutral structural embedding of the proto-verbal elements shows that the structural characteristics of the tense and aspect markings in the source and language do not play a decisive role. The semantic properties of the source languages seem to play an important role indeed because in the target language Dutch, differences in aspectual viewpoint are not so systematically marked as the Moroccan and Turkish learners of the present study do in Dutch (see chapter 3 for the semantic properties of the source and target languages).

With respect to the factor of lexical aspect the results of a quantificational analysis of all the verb phrases used in the Modern Times retellings showed that the lexical semantics of the main verb influenced indeed a particular type of proto-AUX: Verbs which have a clear visible post-state (pure change-of-state/2-state verbs) like ‘to steal something’ and ‘to find something’ seem to attract at first the perfect HAVE+PP construction. This indicates that the semantic features of a particular semantic category of verbs attract a particular morphosyntactic coding. It could be asked whether this is not simply due to the use of the perfect HAVE+PP construction in the diagnostic contexts of, for example, ‘Charlie has stolen the bread’ (Tsit < TT=TU) being better, and more simply, explained by the lexical aspect association of 2-state verbs with perfect (instead of a grammatical aspectual viewpoint explanation). This might be a variant of the lexical aspect hypothesis which claims that morphemes which in the target language mark pastness, anteriority (perfect) and/or perfectivity first appear with punctual and/or telic verbs. The following results prove that although lexical aspect is an import cue in the shaping process of the acquisition of verbal morphology, it is the aspectual context which ultimately determines the form and the meaning of the earliest proto-verbal elements.

First of all, I have found in the personal narratives which are temporally identical to the diagnostic contexts, that one-state verbs like ‘sleep’ and ‘play football’ are also marked for perfect, i.e.: ik heb drie keer gespeeld ‘I have three times played’ and ik heb slapen ‘I have sleep’.

Secondly, Mahmut continues to unmark 2-state verbs. Even in the third cycle he uses 2-state verbs like kopen ‘buy’ and vinden ‘find’ in the basic long form. This implicates that despite of the fact that clear 2-state verbs are the first ones to attract the perfect HAVE+PP coding, this is not a question of non-analyzed chunks, but it is the outcome of the fusion of basic forms with a perfect marking element.
Thirdly, the analyses from the diagnostic contexts clearly show that in actual production, all verbal categories take all types of (pre)morphosyntactic marking if needed in a particular context. In situations in which the lexical aspect and the viewpoint aspect hypothesis would lead to contradictory results (e.g., in the case of 1-state verbs in a post-state viewpoint aspect), viewpoint aspect coding always takes precedence. Take for example, the change-of-state verb *pakken* ‘take’ which was used in:

(7.52) **MK 2.9**  

*Ik heb de brood *gepakt*  
I have the bread taken  
*en toen die politie pakken Charlie*  
and then that police take Charlie

This is an example of two different morphosyntactic-like markings (e.g., a perfect HAVE+PP and a default perfective long form) being used in different contexts at the same stage of acquisition of the same 2-state verb. This is only one of the many examples indicating that it is the aspectual context which determines the difference between *heb gepakt* and *pakken*. Lexical aspect is not the main predictor of a particular verbal coding.

Finally, a quantitative analysis investigating the role of lexical (or inherent) aspect in the developmental distribution of the temporal morphology of all the verbs used in the whole corpus of the learners of Dutch, has provided more supporting evidence that the variation in early free analytic tense and aspect markers must be mainly due to the outcome of the interaction between the lexical aspect factor and the communicative need to express viewpoint aspect. The single factor ‘lexical aspect’ is not enough to explain the variation in early proto-verbal tense and aspect markings. It seems that the “need” to contrast aspectual viewpoints on events overrules the principle to mark redundantly the lexical features of the verb.

This observation brings us to the driving factors behind the development of early tense and aspect markings. In order to see what linguistic means the learners of the present study used “needed” for providing a temporal coherent discourse, I have to resume here the results of analyses of the diagnostic contexts which served as an important analytic tool.

The results showed that the violation of the topic condition -a “break” in the chronological chain of TTs (PNO), was marked by a few lexical means indicating simultaneity such as “too”, “always” and “even.” The use of intonation to subordinate utterances and to place them, as it were, in the side structure of the story-line seems to be a general used strategy. No occurrences of a lexical temporal adverbial such as ‘while’ was found. On the basis of Bohnmeyers’ BTO implicatures I concluded that the imperfective **BE+inf** constructions, the imperfective/locative *zit te ‘sit to’ staat te ‘stay to’ + inf constructions and the ingressive *begint te ‘begins to’ gaat ‘go’ + inf constructions were also being used as
simultaneity markers: The imperfective/progressive/ingressive marking of an event entails that it overlaps with the event in the subsequent utterance.

The diagnostics have also shown that the first contrastive forms, the proto-AUX + inf/pp constructions expressed contrasts in aspectual viewpoint and not in tense. In different aspectual contexts, the verbs received different proto-AUX in contrast to the base form whereas in contexts with a different TT-TU relation the verb stayed in the base form. I concluded that the first occurrences of morphosyntactic-like markings are free proto-AUX markers of aspect. Only later, free copula-like markers of tense emerged (proto-COP) within the topic component of the utterance. The structural embedding of the proto-AUX is straightforward; they all appear within the focus component of the utterance violating the focus condition. The focus condition assumes that, in a narrative type of data, the events described in the focus component of the utterance are perfectively narrated (TT includes Tst). A violation of the focus condition entails that the aspectual viewpoint is not perfective but must be imperfective, perfect, ingressive, egressive or prospective, depending on the type of proto-AUX.

The copula-like distinctions marked in the topic component of the utterances is and was indicate a violation of the global TT to TU relation; a change in tense. Just as they do for the deictic adverbials marking the TT-TU relation, learners put at the same utterance-initial position (before the “subject”) early tense markings to have wide scope over the utterance (see section 6.4.2). Given the fact that these proto-COP emerge later in the diagnostic contexts then the proto-AUX it can be stated that the proto-AUX are communicatively more “needed” then the proto-COP.

In summary, it can be concluded that these results corroborate the grammatical aspect before tense hypothesis and partly the lexical aspect before tense hypothesis. Filtering mechanisms and driving forces seem to interact in the acquisition of Dutch tense and aspect markings by Turkish and Moroccan-Arabic second language learners. In the earliest stages, a proto-AUX HAVE+PP used for marking a post-state viewpoint aspect, was often used in combination with a 2-state main verb (with a clear post-state). However, the results of the analyses in the diagnostic contexts and in the personal narratives also showed, that in actual production, all verbal categories took all types of (pre)morpho-syntactic marking if it was needed in a particular context. In situations that the lexical aspect and the viewpoint aspect hypothesis would give contradictory results (e.g. in the case of 1-state verbs in a post-state viewpoint aspect), the viewpoint aspect coding seems to win (see the example 7.52 above). Lexical aspect can not be the main predictor of a particular verbal coding. A quantitative analysis investigating the role of lexical (or inherent) aspect in the developmental distribution of the temporal morphology of all the verbs used in the whole corpus of the learners of Dutch, has given us more supporting evidence the single “shaping” factor lexical aspect is not enough to explain the variation in early proto-verbal tense and aspect markings. It is the
driving force or the communicative need to express grammatical aspectual viewpoint which decisively determines which verb in context-independently of its lexical aspect-gets which contrastive proto-verbal marking.
Chapter 8

Morphosyntactic doorways:
The French data

One may now wonder whether the French data corroborate the results found in the Dutch data? Do the Moroccan learners of French use the same spelling-out strategy as the Moroccan learners of Dutch data? I argued in chapter 7 that the use of proto-AUX + V constructions have to be considered as the spelling-out of the target Dutch complex verbal forms in two analytic compounds with each having a clear meaning; the proto-AUX as the marking of the viewpoint aspect (the relation between TT and Tsit) and a main verb as a carrier of the semantic features of the event. Do the Moroccan learners of French use the same proto-AUX HAVE and proto-AUX BE constructions? It has already been hypothesized (see section 3.2.2 and section 5.1.2) that the “unpackaging” process for learners of French in a natural context must be difficult for reasons of perceptual opacity. In French, the auxiliary and the main verb are always together in second position (in declarative utterances) and often entangled in such a way that it is hard for the learners to segment and categorize this cluster of unstressed markers (cliticized pronouns and negation included). These very complex verbal constructions with all the opaque prefixes and suffixes around the verb are difficult to decode and to unpack, especially in a non-tutored language learning environment.

These differences in the formal and the structural properties of the Dutch and the French target tense and aspect system, lead to the question as to whether, and how, Moroccan learners of French end up unpacking temporal and aspectual relations in the pre- and post-verbal complex. With respect to the stepwise reconciliation of the basic utterance organisation with details of the target language organisation, it will be interesting to see if the Moroccan learners of French grammaticalize their production in the same way as the Moroccan learners of Dutch do.

In this comparison of the French data with the Dutch data, I will again investigate longitudinal data which cover both the formal and the semantic-functional dimension of temporal reference. The research questions are the same:
How do the learners of the present study enter the formal tense and aspect system of the target languages, that is, what are the first verbal forms which contrast with the base verbs?

What contrasts in meaning are associated with these early contrastive forms?

Is there a one-to-one mapping of the meaning and the position of these early tense and aspect morphemes?

What factors shape and push the development of a morphosyntactic tense and aspect system?

To this end, I carry out a study parallel to the Dutch data. I start with an overview of the results of previous studies (mainly by Noyau 1995 and Véronique 1985) which are carried out using the same data and informants: Abdelmalek and Zahra (see section 5.2). This is followed by a detailed diagnosis of the verbal forms used in the diagnostic contexts of the Modern Times retellings by Abdelmalek, Zahra, and, in addition, Abdessamad. The analysis concentrates on the following questions:

(1) Which linguistic markings do the learners use to mark the relation Tsit < TT in retelling the scenes IV (“the bread stealing” scene) and XV (the “I have found a house” scene)?

(2) Which linguistic markings do the learners use to mark the overlapping event order relation (Tsit1< TT1, TT1=TT2 and Tsit2</> TT2) as in the scenes IV, V, VIII and XV (see section 7.2)?

In contrast to the presentation of the Dutch data, I present an overview of the basic forms of the French data after the data-analysis of the diagnostic contexts. The examples presented in this chapter will show that it is almost impossible to give a systematic overview of the most frequent forms used in the French data. Particularly at the beginning stages, the Moroccan learners of French seem to use one unique form for each verb. The comparative in-depth analysis of the film-retellings is then followed by a comparative analysis of these data with personal narrative data from the same informants (Abdelmalek, Zahra, and Abdessamad).

The organisation of this chapter is as follows. First, I summarize the report of Noyau in Dietrich et al. (1995: 145-209) on the acquisition of verbal morphology by the two informants of French, Abdelmalek and Zahra (section 8.1). Second, in section 8.2, I present the detailed analyses of the diagnostic contexts (section 8.2.1) which is followed by an overview of the basic forms of the most frequent used verbs in the film retellings of the cycles 2 and 3.
8.1 The development of French tense and aspect morphology in previous studies

I start by summarizing of Noyau’s report (1995) on Abdelmalek’s development of verbal. Remember that Abdelmalek is a fast learner.

ABDELMAL EK

Cycle 1
First, I want to show the reader what the verb groups of Abdelmalek look like at this early stage of acquisition. Note that they are very different from the Dutch verb groups although the learners have the same source language, Moroccan-Arabic. Abdelmalek uses not less than 7 forms of the verb dormir in the first cycle (always with the speaker as a subject and at the time of the narrated events TT=TU): [dorm], [edorm], [ladorm], [lidorm], [lidormi], [idorm], [ladormi]. It is remarkable that, as Noyau says, there is no temporal or aspectual value linked to the manifold form variation around verbs in the first cycle. In fact, Abdelmalek has just reached the stage that the form variation around events is different from the variation around nouns.

Cycle 2
Noyau reports that, in the second cycle, a few isolated tokens are differentiated for person with a clitic subject Pro (see section 3.2.2), but there is still no identification of an AUX. The main suffixation patterns V-[e] and V-[o] mostly appear according to a structuring hypothesis linked to inherent temporal features of situations. This finding corroborates the lexical aspect hypothesis, which Noyau calls the Hypothesis of Inherent aspect (Hi). Verb endings are worked upon toward some functional distribution, following the rule that verbs used for dynamic situations are mainly suffixed V-[e] whereas static situations tend to follow the short pattern V-[o]. However, Noyau also finds a morphological opposition ([afe] vs [fe]) which could correspond to a contrast between two aspectual values. This is supporting evidence for the grammatical aspect before tense hypothesis. For the resultative state of a (past) event (perfect, TT > Tsit) versus a perfective (past) singular event (Tsit is included in TT):

(8.1) AI 2.5
comme moi [afe] une bagarre avec lui [eveny] la police
as I have had a quarrel with him the police came
[fe] la pistole comme ça
did the gun like this

Note that this contrast very much resembles the contrast I found in the Dutch data: proto-AUX have+V for a perfect aspectual viewpoint and the base form, in narratives, for the default perfective aspectual viewpoint.
Noyau gives another example in which the opposition V-∅ vs V-[e] is used for the situation-internal contrast 1-state (manquer ‘miss’) versus 2-state verbs (barquer=embrquer ‘take on board’), supporting the lexical aspect hypothesis:

(8.2) AL 2.5
après [slamank] un marin je [barks] moi toi
after (if) one mariner misses, I go on board with you

However, Noyau also finds different forms V-∅ [travaj] and V-[e] [travaje] for the contrast between prospective (ongoing) versus completed (past):

(8.3) AL 2.5
j'ai dit [slamank] que je trava pas
I said I’m ill I do not work
travaje trois jours avec lui
I worked three days with him

There are situations in which both hypotheses (the lexical aspect and the grammatical viewpoint aspect) would give contradictory results, as in this example of a prospective for a 2-state verb:

(8.4) AL 2.5
il m'dit oui je te bark avec moi
he said yes I take you on board with me

The grammatical viewpoint aspect seems to “win”: the verb (em)barquer ‘to take on board’ is a 2-state verb which asks, following the lexical aspect hypothesis, for a V-[e] marking but it appears as a V-∅ marking because of the prospective viewpoint. These facts lead Noyau to the following tentative interpretation: the morphological contrast V-∅ versus V-[e] seems to be governed in Abdelemalek’s cycle 2 by two simultaneous hypotheses which can give compatible (in most cases) or contradictory forms. The first hypothesis, Hi, is based on inherent temporal features of the situations irrespective of temporal relations (TT-TU) or perspective (grammatical viewpoint aspect, TT-TSit). The second hypothesis, Ha/t, is based on an aspectual or temporal (tense) distinction:

<table>
<thead>
<tr>
<th>Hi</th>
<th>V-∅</th>
<th>for 1-state verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V-[e]</td>
<td>for 2-state verbs</td>
</tr>
<tr>
<td>Ha/t</td>
<td>V-∅</td>
<td>for incompleted imperfective situations</td>
</tr>
<tr>
<td></td>
<td>V-[e]</td>
<td>for completed or past situations</td>
</tr>
</tbody>
</table>

In order to distinguish between temporal and aspectual oppositions in Ha/t, Noyau checked Abdelemalek’s data for the following phenomena:
- if two different aspectual perspectives (say imperfective TT in Tsit vs perfect TT after Tsit) could be taken for situations within the same temporal location (TT<TU vs TT=TU vs TT > TU);
- if the same aspectual perspective on situations could be taken for different reference points.

Unfortunately, Noyau did not find such contrasting situations with the same or compatible verbs, so the hypothesis remains formulated as a temporo-aspectual one. She illustrates this inconclusivity with the following example, taken from the retelling of Abdelmalek’s adventurous arrival in France from Spain. Noyau analyses the contrast [done] versus [don] as a perfective versus imperfective contrast respectively:

(8.5)  AL 2.5

a. [parte] u consul il [done] laisser-passar
   (if)(I) went to a consulate he gave a laisser-passer
b. non consul il [don] pas
   the consulate gives not

Noyau claims that [done] in (8.5 a) corresponds to a definite single event (in a hypothetical setting), whereas in (8.5 b) [don] stands for an indefinite generic situation (the consulate never gives), two derived values of a perfective/imperfective opposition.

It is interesting to see that Noyau also reports on the use of “periphrastic” means in Abdelmalek’s (cycle 2) discourse for conveying the aspectual notion of “inchoativity” (or in Bohnemeyer’s terms ingressivity). The TL-pattern is se mettre à and Abdelmalek uses [fe] à:

(8.6)  AL 2.5

matin a six heures [fe a march]
in the morning at six I started to walk

Another example of a periphrastic construction is the following in which Abdelmalek uses [komäs] for the TL pattern commencer à ‘start to’.

(8.7)  AL 2.4

il [komäs] le [phy]
it starts to rain

Cycle 3

Noyau observes that the introductions of reported speech still stick to the formula il [médj]. The pattern [ma]-V seems to be linked, in most cases, to the 3rd person (and does not include any oblique 1st person me ‘me’ in most cases). Verbs with a single basic form in different temporal contexts are still used, but the growth of verbal morphology is also evidenced by a differentiation of persons in the paradigm : je [swi] vs [île].
At the end of the study, for the last film retelling of Modern Times, Noyau presents the following features for Abdelmalek’s grammar of predications:

- pre-verbal markers are restructured, with a differentiation between clitic [il], [i] and auxiliary [a] [ma];
- [e], [ete] are clear forms for copula, the later for past situations;
- tense oppositions are still embryonic and mainly concern quoted speech;
- an aspectual distinction shows up between [ma]-V for completed actions or perfectives and [e]-V for incomplete or imperfective states.

Noyau adds the following remarks on the development of Ablemalek’s growing use of [ma] as an AUX:

- it only holds for the 2nd and 3rd person. It seems to have developed from the former isolated set phrase: [ilmadi];
- in narratives, the aspectual value of this idiosyncratic pattern is past perfective;
- it is an example of a local hypothesis, built on frequent tokens from the input (cf. il m’a donné ‘he has given me’ il m’a dit ‘he has said to me’). Although, in some cases, the prefixes [ma-] or [me-] may possibly contain an oblique 1st person pronominal interpretation, this interpretation is implausible in most cases. In the last film retelling:

\[(8.8)\] AL 3.9

’il [mareste mõZe] (...) il [mamãze] il [edruge]
he stayed to eat (...) he has eaten, he is drugged

and in conversation (note that a lot of these complex forms are plausible):

\[(8.9)\] AL 3.8

le gendarme il [mariv] il [marete] en face d’un bâtiment il [magard] comme ça ...
[ilmaret] [ilmaparte] + pas [desãde] il [madesã] il [mãd] les papiers
‘the policeman arrives, stops in front of a building he looks (at me?) like this... he stops, he leaves, he does not get out (of the car), he gets out he asks me the documents’

Noyau reports on the final state of the morphologisation of tense and aspect notions in Abdelmalek’s learner variety as follows:

- V is now analysed into: (pers. pronoun) AUX V;
  V is the non-finite part of the verb, corresponding to the TL infinitive as it appears from two distributional regularities:
  a) placing of Negation before V, which is distinct from the preposed Neg-N/V at the onset of the study;
  b) appearance of the pattern V-r for non-finite in given contexts, as with the deontic [jfe] V (from the verb falloir) ‘one must V’.
(8.10)  AL 3.8

\[\text{[jojfinir] les problèmes}\]
\[\text{one has to end the problems}\]
\[\text{[il fo a\text{"a}dr] trois mois}\]
\[\text{one has to wait three months}\]

Noyau concludes that:

“(…) indeed the semantic values for which Abdelmalek looks for paradigms are aspect-oriented rather than tense-oriented: after having displayed a wide range of pre- and postverbal variations without clear distribution during a long time, he’s working with prefixation (at another level as at early stages, i.e. after now having identified a component AUX) and one semantic hypothesis (=viewpoint aspect, ms) as the main structuring principle.” (p 180)

This is exactly what I observed in the preceding chapter for the acquisition stages of the learners of Dutch; although a particular category of verbs (e.g. 2-state verbs) seems to attract a particular (pre)morphosyntactic coding at first -the proto-AUX HAVE+PP CODING-, the morphologisation process is determined mainly by the encoding of contrasts in aspectual viewpoint. Furthermore, it seems that one of the conclusions of Dietrich et al. (1995:271) ‘form precedes function’ is totally applicable to Abdelmalek’s data.

Noyau’s observation that one of the remarkable characteristics of Abdelmalek’s discourse forms is the frequent indirect expression of temporo-aspectual information through modal means like the deontic [joj] from the verb ‘falloir’ also parallels the Dutch data:

(8.11)  AL 3.5

NS:  \[\text{dans combien de temps tu veux y retourner?}\]
\[\text{in how much time do you want to return here?}\]

AE:  \[\text{il [joj] jusqu'à je [fin]}\]
\[\text{necessary until I finish}\]
\[\text{je [swanje] bien}\]
\[\text{I cure well}\]
\[\text{un an après je [turn] [SerSe] du travail aussi}\]
\[\text{one year after I go a new look for a job also}\]
\[\text{[joj] je rest un an}\]
\[\text{necessary I stay one year}\]

At the end of the study, according to Noyau, Abdelmalek’s verbal morphology is still far from approaching the target language usage for temporo-aspectual distinctions. Nevertheless, the verbal compound block has been broken down into the target language functional components: (Pro1) (Pro2) (AUX) V (flect). Now that the synthetic complex French verbal cluster is broken down into more digestible components, these components may prepare the ground for further development.
ZAHRA

Cycle 1

As Noyau (1995) points out, it is difficult to ascertain the extent of Zahra’s repertoire in her retelling of Modern Times in cycle 1 because of the scaffolding of the native speaker. Her (about) 30 connected utterances were produced in an often dialogic activity whose transcription amounted to 182 (!) turns. On one of the first occasions that Noyau reports on a sequence of connected events uttered by Zahra (about her language classes), her analysis of the use of [e] as regards the phonological alternatives *est* ‘is’ and *et* ‘and’ in spoken French is ambiguous:

(8.12) ZA 1.2

<table>
<thead>
<tr>
<th>No</th>
<th>Utterance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.1</td>
<td>toujours l’ardoise le premier</td>
</tr>
<tr>
<td>1.2.2</td>
<td>always the slate first</td>
</tr>
<tr>
<td>2.2.1</td>
<td>et après [e] ça &lt;&gt; et après le livre</td>
</tr>
<tr>
<td>2.2.2</td>
<td>pointing to an exercise book</td>
</tr>
<tr>
<td>2.2.3</td>
<td>and then it’s this and after (that) the book</td>
</tr>
<tr>
<td>2.2.4</td>
<td>[e] la dame la cassette comme ça</td>
</tr>
<tr>
<td>2.2.5</td>
<td>and/is the woman the recorder like this</td>
</tr>
<tr>
<td>2.2.6</td>
<td>[e] [i parle]</td>
</tr>
<tr>
<td>2.2.7</td>
<td>and/is he speak</td>
</tr>
<tr>
<td>2.2.8</td>
<td>et après tous les femmes uh comme la cassette</td>
</tr>
<tr>
<td>2.2.9</td>
<td>and then all the woman uh like the cassette recorder</td>
</tr>
<tr>
<td>2.2.10</td>
<td>[e] le livre comme ça</td>
</tr>
<tr>
<td>2.2.11</td>
<td>and then is/and the book like this</td>
</tr>
<tr>
<td>2.2.12</td>
<td>[e] la cassette [i parle] comme la dame</td>
</tr>
<tr>
<td>2.2.13</td>
<td>and/is the cassette recorder he speak like the lady</td>
</tr>
<tr>
<td>2.2.14</td>
<td>moi [i parle] comme la cassette</td>
</tr>
<tr>
<td>2.2.15</td>
<td>me he speak like the cassette</td>
</tr>
<tr>
<td>2.2.16</td>
<td>et après [e] la dame tous/tous la dame [i parle] pour le livre</td>
</tr>
<tr>
<td>2.2.17</td>
<td>and then is/and the lady all/all the lady he speak for the book</td>
</tr>
</tbody>
</table>

The use of the isolated [e] forms are interesting. They are embedded in the topic component before the subject. Although they are ambiguous as regards ‘is’ and ‘and’ it seems more logical that in the utterances (2), (6) and (9) [e] meaning ‘and’ after *et après* ‘and then’ would be too much of the same.

At the end of cycle 1, Zahra shows a variety of prefixation, with some distributional restrictions, however:

before recognisable persons and objects: *[he], [li], [la]*
before recognisable actions: *[i], [ili], [ila], [le], [e], [jo], [ija], [iva]*

In the middle of cycle 1, a frequent predicing formula appears which, according to Noyau, could be a candidate for expressing a perfective aspectual distinction: *[saje] V ‘that’s it’ V*. Noyau reports, furthermore, that Zahra makes use of some predicative devices:

*[se] [sepa]:* identificational and copula
*[ija], [juma], [junapa]:* existential, possession
Note that Noyau also gives an aspectual viewpoint function to the use of [jana] for presenting a durative (resultative) state in contrast to the perfective [saje] for marking the right boundary of a new situation (egressive operator).

(8.13)  
[jana] [le kase] l’assiette  
there is a plate broken

(8.14)  
et toi [le kase]  
and you broke it  
oui madame [e] moi  
yes madame (it) is me  
eskyz moi [le kase]  
excuse me that I broke it  
et après [saje] [lazjete] la poubelle  
and then it’s over it’s thrown in the dustbin

(8.15)  
après quand ça [saje] le travail après mal à la tête  
and afterwards after finishing work afterwards I got a headache

Cycle 2

(8.16)  
ZA 2.3  
le commerce [imarS] pas/ [iSãZe] à la france  
the trade it work not/ he change to France

Noyau gives also the following interesting example which shows that two different meanings of the same verb, chercher ‘look for’ (1-state) and chercher ‘fetch’ (2-state), give a different (pre)morphosyntactic encoding: V- for the 1-state content and V-[e] for the 2-state content. This supports the lexical aspect hypothesis:

(8.17)  
ZA 2.3  
et après [cherb] celui-la la maison grand  
and then look for this one the house big  
et après [naSte] tous les choses les fauteuils les meubles  
and then buy all the things the armchairs the furniture  
après moi [parti] le maroc [SerSe] les enfants avec la carte jaune  
then me go Morocco fetch the children with the yellow card

Cycle 3
Noyau’s report on the final stage of Zahra’s (slow) development of the morphologisation process states, that, as far as the shape of V in utterances is concerned, the prefixed morph before movement verbs (which are conjugated with être) are mostly TL-like: [ileparti]. In analysing Zahra’s last narrative, Noyau says that the narrative “reveals the beginnings of morphological differentiation,
which hints to an incipient systematisation of the contrast $V \$ V[-i]_e$ for + or - completed”. In the very last conversation, the verbal morphology clearly follows the opposition: $x-V \$ V[-i]$ for prospective aspectual viewpoint and $x-V[-e]$ for completed perfect aspectual viewpoint. Note that, in the following example, the relation TT-TU is explicitly specified as TT AT TU by the deictic adverbial maintenant ‘now’. This implies that the form $V[-e]$ in this example cannot indicate a past TT < TU. The construction $x-V[-e]$ clearly has a perfect value:

(8.18) ZA 3.4

\begin{quote}
\textit{et maintenant [zo turne] pour [Sanze] le tricot}
\end{quote}

and now I come back for change the sweater

This contrasts to $V \$, which has an aspectual value of non-completedness:

(8.19) ZA 3.4

\begin{quote}
\textit{et maintenant [sanZ] pas et [don] pas l'argent?}
\end{quote}

and now not change and give not the money?

INT: alors quel est le problème? vous l'avez lavé?

so what’s the problem? did you wash it?

ZA: \textit{oui + après [i ser] (why not sere)}

yes and afterwards it shrinks

INT: \textit{vous voulez un autre modèle?}

do you want another model?

ZA: \textit{non le même modèle mais le tissu [se] bon [i ser] pas}

no the same one but the fabric its good it shrinks not

Although, according to Noyau, it is often difficult to state whether form contrasts correspond to tense distinctions or rather to aspectual distinctions, she concludes

“As regards the grammaticisation of temporal means, the syntactic differentiation of N from V has very slowly brought consequences as regards the the functioning of lexemes for processes. The slight tendency towards a morphological differentiation of verbal forms according to inherent temporal features has not stabilised. The type of semantic feature it seems to be more sensitive to now is ASPECT, without clear-cut distribution, but it has not undergone a reinterpretation towards temporal relation. This learner gives an image of how the initial system can lead to fossilisation.”(p170)

Summary and preliminary hypotheses

The acquisition picture is clear for both Zahra and Abdelmalek; for a long period, they do not succeed in unpackaging the cluster of unstressed French markings entangled around the verb. They take over what is presumably the most frequent form of the verb in which the verb occurs in the input as a basic ad singule-used form. This leads to a whole set of holophrases (unanalysed chunks) without a clear one-to-one mapping from function to form. It seems that, as a learner strategy, they take advantage of the perceptual opacity of all the unstressed markings around the verb. Therefore, in order to encode the viewpoint aspect anyway, they develop free analytic forms which look like the proto-AUX in the Dutch learner
data. Abdelmalek uses the modal auxiliary \textit{il faut} [iló], ‘it’s necessary’, the target ingressive ‘commencer à’ [komazi] ‘start to’ and the idiosyncratic [fe dí] ‘start to’ and the formulas [se fini], ‘it’s over’ and [saje] ‘it’s over’ in order to convey respectively prospective, ingressive, and eggressive aspectual notions. Zahra and Abdelmalek use the formula [saje] ‘it’s over’ and [se fini] ‘it’s over’ for marking the end of a situation or the egressive aspectual viewpoint, which implies perfectivity (cf. Bohnemeyer 1998, see also section 2.4.3). Both use the existential predicative marker ‘jana’ for marking the beginning of a new situation (ingressive aspectual viewpoint which implies imperfectivity).

In the next section, I discuss in detail the results of the analysis of the diagnostic contexts of the main informants, Abdelmalek and Zahra. In addition, I will also analyse the data of Abdessamad, an additional Moroccan-French informant (see section 5.2).

8.2 Discourse analysis of the Modern Times film retellings

In contrast to the presentation of the empirical analyses for the Dutch data in section 7.2, I present the Modern Times retellings of the learners of French in parallel columns; in the left column, I present the retelling of cycle 2 and, in the right, the retelling of cycle 3 is presented. I start with Abdelmalek. For the procedure of analysis of the diagnostic contexts, I refer to section 7.2. There I explain in detail that my analyses are concentrated on those contexts in which at least one of the three default discourse-pragmatic conditions of narratives (see section 2.3.2) must be violated. The research questions and the hypotheses are presented in section 5.2 and repeated in the introduction to this chapter. The research questions are formulated in terms of what is acquired, how is it acquired, and why learners develop a particular form for a particular tense or aspect notion. In the last section, I summarized previous findings on the Moroccan-French data. In this section, on the basis of an in-depth discourse analyses and more global quantitative analyses, I will attempt to show in particular that:

(a) the verb suffix (e.g., V-\textit{e} versus V-\textit{o}) is not the context which shows acquisitional progress (as is argued by Noyau 1995);
(b) tense distinctions are not the first to be marked (the tense before aspect hypothesis corroborated by Dietrich 1995 et al.: 270);
(c) the inherent lexical features of the verbs do NOT attract a particular (pre)morphosyntactic coding (the lexical aspect hypothesis).
ABDELMAL EK

(1) **The marking of Tsit < TT: “I have stolen the bread”**

In (8.20) we see how Abdelmalek retells the bread-stealing scene, in cycle 2 (left column) and in cycle 3 (right column):

<table>
<thead>
<tr>
<th>(8.20)</th>
<th>I HAVE STOLEN THE BREAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD 2.9</td>
<td>AD 3.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Arabic</th>
<th>English</th>
<th>Arabic</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have stolen the bread</td>
<td>[il madi] non [ifo tu sori]</td>
<td>he (the director of the prison) say you must leave</td>
<td>[ilma sorti]</td>
</tr>
<tr>
<td>There leave with a little girl</td>
<td>[ilma sorti]</td>
<td>(he) leave</td>
<td></td>
</tr>
<tr>
<td>She/he steal a bread</td>
<td>[e/][il marave] un baguette de pain</td>
<td>the other elle come say no</td>
<td>[ilmetrape] la police le elle</td>
</tr>
<tr>
<td>Is/and already you (=she) steal a bread</td>
<td>[e] déjà [tuvole] un baguette de pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlie chaplin [pas] avec la route</td>
<td>[ilma sorti]</td>
<td>catch the police she</td>
<td>[ilmetrape] la police le elle</td>
</tr>
<tr>
<td>The street</td>
<td>elle</td>
<td>say no it is not she steal</td>
<td>(he?)</td>
</tr>
<tr>
<td>Voilà [eveni] la police [trap]</td>
<td>[ilma sorti]</td>
<td>it is me I steal</td>
<td></td>
</tr>
<tr>
<td>C' est [mevjen] [imadi] non [se] pas elle [ilmavole]</td>
<td>[e/][e] moi je [vole]</td>
<td>okay they catch charles</td>
<td></td>
</tr>
<tr>
<td>There is come the police catch the girl</td>
<td>bon il [meatrape] le charles</td>
<td>come the woman</td>
<td></td>
</tr>
<tr>
<td>Voilà [eveni] charlie chaplin</td>
<td>[se] moi je [vole]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is charlie chaplin</td>
<td>[e/][e] pas le femme [tuvole]</td>
<td>say no it is not (the) charles he steal</td>
<td></td>
</tr>
<tr>
<td>He say is not the wife steal</td>
<td>[tumadi] non [se] pas le charles [ilmarole]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moi je [vole]</td>
<td>[ilma sorti]</td>
<td>me I steal</td>
<td></td>
</tr>
<tr>
<td>Voilà le fille [reste] avec l'autre dame</td>
<td>[ilma sorti]</td>
<td>the girl stay with the other woman</td>
<td></td>
</tr>
<tr>
<td>There is the girl stay with the other woman</td>
<td>[ilma sorti]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L'autre dame voilà tu [meak]</td>
<td>[ilma sorti]</td>
<td>the other woman there is (she) say</td>
<td></td>
</tr>
<tr>
<td>The other woman there is (she) say</td>
<td>[ilma sorti]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voilà le femme [tuvole]</td>
<td>[ilma sorti]</td>
<td>there is the wife you (=she) steal</td>
<td></td>
</tr>
</tbody>
</table>

In general, it can be seen that Abdelmalek uses one single basic form for each verb in each cycle. In cycle 2, the basic forms of *venir* and *attraper* are *[eveni]* and *[trap]*, in cycle 3, *[mevjen]* and *[meatrape]*. The basic form of *dire* stays the same in cycle 2 and 3 ([ilmadi]), and *vole* is in cycle 2 *[vole]* and varies in cycle 3 between *[vole]* and *[marole]*. I have already shown in section 8.1, that, according to Noyau (1995), it is often impossible to determine whether the preverbal *[ma-]* or *[me-]* morphemes also contain an oblique 1° person pronominal form. Noyau proposes a default perfective value for these forms in narratives. As far as her analysis of the preverbal *[ma-]* in the cycle 3 retellings is concerned, I totally agree with Noyau. However, I do not agree with Noyau's analysis that the functional distinction of
the verb suffixes $V_e$ versus $V_\varnothing$ (in cycle 2 and in cycle 3) is based on the lexical aspect of the verb type. My conclusion is that the inherent semantic features of the verb have nothing to do with a systematic type of early morphosyntactic encoding. I found that 2-state verbs were not only marked $V_e$ and that 1-state verbs were not only marked $V_\varnothing$. My observations in contexts such as (8.20) above show that in cycle 2, pure 1-state verbs like rester ‘stay’ take a $V_e$ encoding and pure 2-state verbs like attraper ‘catch’ occur in a basic $V_\varnothing$ (see also the list of basic forms in section 8.3). This observation goes against the lexical aspect hypothesis.

I did not find any evidence for the thesis that the variation in the post-verbal morphology is determined by a difference in temporo-aspectual function in cycle 3, as is predicted by Noyau’s Ha/t hypothesis. The verbal encoding $V_e$ moi je [vole] as in Charlie’s reported speech (TT=TU) “I have stolen the bread”, does not differ from the verbal encoding of most of the other verb phrases. This implies that the encoding $V_e$ is the contrastive form for marking an perfect viewpoint. The same coding is also used for verbs which do not express a post-state. However, the use of déjà ‘already’ in “déjà [vole] un baguette de pain” (left column) seems to be a more plausible choice for marking the post-state of the situation-time voler.

In general, I observed that, for a functional distribution of morphemes, it is only in the pre-verbal area that variation in form indicates a variation in meaning. Notice that, in Abdelmalek’s diagnostic contexts, nothing indicates that this verbal variation expresses tense or aspect notions. The systematic formal differences of the prefixes found in the diagnostics context indicated a variation in person agreement:

\begin{itemize}
  \item cycle 2: \textit{la petite fille/la femme} [vole] versus moi je [vole]
  \item cycle 3: [ilvole], [levole] and moi je [vole]
\end{itemize}

For the 1st person only the clitic pronoun je occurs in cycle II and III and, for the 3rd person, there is a clitic tu in cycle II and a clitic + prefix node [ilma] in the third cycle. This morphosyntactic variation shows no temporo-aspectual agreement. Apparently Abdelmalek has figured out that the personal agreement must be marked in the prefix area.

There are no linguistic indications at all that Abdelmalek tried to embed the retelling in the past in the retelling of cycle 2. An essential difference with the analyses of the learner Dutch data is that French has no formal difference between a past and present topic time shifter. In the Dutch data, the past topic time shifter \textit{en toen} indicated in a straightforward way that some learners had at least the intention of embedding the whole retelling in the past. For the French data analyses, I did not have this clear temporal anchor point.
(2) Simultaneity; \( TsiT1 \leq TT1, \ TT1 \leq TT2 \) and \( TsiT2 \prec / \succ TT2 \)

One example of simultaneity of events is to be found in Abdelmalek’s retelling of the scene in which the policeman/officer is phoning a police car while Charlie enters a cigar-shop and takes cigars and sweets without paying and gives these to little children (scene VIII, see section 7.2):

(8.21) \( AL \ 2.9 \)

\[
\begin{align*}
&[jana] \text{les cigarettes} \\
&\text{there is cigarettes} \\
&[ipra] \text{cigarette} \\
&\text{he take cigarette} \\
&[jana] \text{beaucoup des petites filles} \\
&\text{there is much little girls} \\
&[den] \text{quelque chose} \\
&\text{he give something}
\end{align*}
\]

\( AL \ 3.9 \)

\[
\begin{align*}
&[matelofon] \text{la police} \\
&\text{he telephone the police} \\
&[muparit] \text{comme la [hiro] de cigarettes} \\
&\text{he leave as (to) the cigarette shop} \\
&[milpar] \text{le cigarette et tout} \\
&\text{take the cigarette and everything} \\
&[madon] \text{[se pas] [kil madone] le petit deux} \\
&\text{the little two children} \\
&[mpa] \text{les enfants} \\
&\text{he give, do'nt kow what he give} \\
&[ilo] \text{la police voila [i fo tu pej]} \\
&\text{he says (to) the police you must pay}
\end{align*}
\]

The most interesting form in this cycle 2 retelling is the use of \( [jana] \) ‘there is’ which Noyau and Véronique (1985, 2000) consider as having a durative existential value. This verb phrase seems to have the following function in establishing temporal coherence in Abdelmalek’s retelling: set cigarettes and children on stage (existential \( [jana] \) ‘there is’) and let them stay there (durative, because there is no right boundary) while Charlie takes the cigarettes and gives sweets to the children. Again, it can be seen in this portion of discourse that clear 2-state verbs like \( prendre \) \( X \) ‘take \( X \)’ and \( donner \) \( X \) ‘give \( X \)’, do not take the \( V\)-\( [e] \) suffix as predicted by the lexical aspect hypothesis. The comparison of the verbal forms of cycle 2 to those of cycle 3 show that the basic (single) forms \( [prã] \) and \( [don] \) of cycle 2, receive a ‘new’ \( [ma]\)-prefix in cycle 2. In fact, in this cycle 3 retelling almost all Abdelmalek’s verb phrases receive the default \( [ma/me] \)-prefix for \( 3^{rd} \) person reference with exception of the reported speech: \( [ifo] \) \( tu \) \( [pej] \).

ZAHRA

In analyzing Zahra’s diagnostic contexts, we will see that the reported speech of Charlie in Zahra’s retelling in cycle 2 is literally the same as that in Abdelmalek’s cycle 2 retelling: \( [se] \) \( ma' \) \( [rôle] \) \( le \) \( pain \). Zahra’s retelling, just like Abdelmalek’s, does not show any functional distribution of \( V\)-\( [e] \) and \( V\)-\( o \) verbal endings. I did not find evidence to support the lexical aspect hypothesis; no particular morphemes for a particular semantic type of verb.
The marking of Tsit TT: “I have stolen the bread” and “I have found a house”

**MORPHOSYNTACTIC DOORWAYS: THE FRENCH DATA**

(1) The marking of Tsit TT: “I have stolen the bread” and “I have found a house”

(8.22) I HAVE STOLEN THE BREAD

ZA 2.9

charlot avec le fille
charlot and the girl
[jana] un fille [vole] le pain
there is a girl steal the bread
[ja] un la dame
there is a woman
il [vole] avec charlie
he (=she) goes with (=to) charlie
regard l fille [vole] le pain
see the girl steal the bread
après la dame [parte] à boulanger
then the woman speak to baker
[jana] charlot [ileparle] à [ja]
there is charlie speak to man
[se] moi [vole] le pain
it is me steal the bread
et la dame [e parle] non [se] pas charlot
and the woman speak no it is not charlot
[se] le fille [e vole] le pain
it is the girl steal the bread

Except for regard ‘look’ and e/iZerZ ‘search’ in cycle 2 and turn ‘go back’ in cycle 3, all the verb phrases have a V-[e/i] ending which depends on the target infinitive form. The basic forms of the verbs remain the same in the third cycle as they were in the second cycle; [vole], [parle], [veni] and [parti]. These data also show that the lexical content of the verb does not attract a particular type of prefix or suffix. Both 1-state verbs such as parler ‘talk’ and 2-state verbs such as voler ‘steal’ take the V-[e] suffix. I do not see any functional reason for the V-o endings of [e/i cherch], [regard] and in cycle 3 [turn]. The set phrase [jana] develops into the target-like il [ja] in cycle 3 and is, as we will also see in the following example, a very productive formula for framing Zahra’s discourse. This is Zahra’s retelling of the scene in which Charlie eats a lot and does not pay:

(8.23) ZA 2.9

après charlot [le parti] à [lestoWrã]
then charlie go to a retaurant
[jana] charlot [iletire] deux plateaux
there is charlie take two sides
et après il [dome] à la dame
and after he to the woman

ZA 3.9

[i parti] à [lestoWrã] comme ça
he go to a restaurant like that
il doi [domande] les W choses pour [mãWZe]
he ask things to eat
The retellings are almost identical in cycle 2 and 3; nothing has changed with respect to the verbal morphology. The only contrastive forms of the same verb are pour [mâZe] ‘to eat’ versus imâZ ‘he eat’. It seems that Zahra is aware of the difference between the perfective imâZ and the non-finite pour [mâZe].

(2) Simultaneity; Tit1=TT1, TT1=TT2 and Tit2 =/=> TT2

In the last diagnostic context of Zahra’s retelling we see her description of the simultaneous events of Charlie and the girl sitting in the grass seeing a couple in front of their lovely house and the ‘finding their own house’ scene:

In cycle 2, we see that Zahra uses the [jana] versus the [se] predicative marker in order to contrast Charlie’s and the girl’s observing of the couple’s house [se] la maison with the possession of their own house [jana] la maison (the resultative state of looking for a house). Again, no systematic distribution of prefixes or suffixes can be observed. The contrastive forms [i parti] versus [i part] and [cherche] versus [cherche] only seem to be phonological variants and/or an indication that Zahra is self-conscious about the diversity of possible functional morphemes around the verb. Note that a free analytic proto-AUX element like [fe] from the verb faire...
triggers the contrastive forms such as [fe trõber] versus [frōb] in cycle 2.

**ABDESSAMAD**

Abdessamad is an informant whose acquisition process of temporal reference has not been analysed by Noyau (1995), Véronique (1985, 2000) or other researchers. Therefore, I first briefly describe some of the essential features of temporo-aspectual reference in his first film retelling.

**Cycle 1**

Abdessamad uses the interesting construction [i komãse] + V 11 times, which looks like the French periphrastic construction for marking ingressive viewpoint commencer à V, ‘to start to’. He also uses the construction [fini] + V two times, which looks like the target periphrastic egressive construction finir à + V ‘to end with’, as in:

(8.25) AS

```
  alors charlot [i komãse mãZe]
  so Charlie starts to eat
  (...)
  alors charlot [i komãse turn] comme ça
  so Charlie starts to go back like that
  (...)
  après [i fini mãZe] [i ile rãr
  after he finish eat he goes inside
  hain [sa je] [i ile parti] lui
  it's over he has left he
  alors [i komãse] toujours comme ça bonjour hain
  so he start always like that bonjour hain
  (...)
  jãna la femme [i ile pañZ] tu [i la di]
  there is a woman she passes by she says
  alors tu [ma di] jdjame fille [i ile vole] du pain
  so she says there is a girl she has stolen a bread
  (...)
  it’s him he starts to run afterwards he catches the girl
  [se] mieux [i ile rest] dans le prison
  it’s better he stays in prison
  [se] lui toujours [i ile rest] dans le prison.
  it’s him always he stays in prison
  [ifo pa sortir]
  he must not go out
```

We see in the example above that Abdessamad uses more free morpheme-like elements in the preverbal area in order to mark the aspectual viewpoint. Take [sa je] il eparl lui ‘it’s done, he has left’ which clearly expresses that the post-state of [leparti] includes the begin-state of [i komãse] toujours comme ça bonjour hain ‘he starts to make grimaces again and again’. This anchoring of two events expresses that
as soon as Charlie has left he starts to make grimaces. Note that the frequentative temporal adverbial 'always' adjacent to the description of the situation comme ça bonjour hein denotes an iterative aspect. From the stimulus, the film, it is known that Charlie makes grimaces again and again.

Note that Abdessamad uses the deontic proto-AUX [ilfo] + V 'he must' construction in order to express a hypothetical event in contrast to the default perspective viewpoint. The utterances [ja] une fille [ile vole] du pain and [se] lui [i komâse mar5] après [ileprâ] le fille are almost literally the same as those from the Moroccan learners of Dutch (see section 7.3.3).

**Cycle 2 and 3**

In the following 'I have stolen the bread' retellings, we see that, in the third cycle, Abdessamad uses the French past tense; the imparfait for the copula être [ete], the passe composé [ila ete] and the predicative marker [sete] c'était. In his cycle 2 retelling we find two typical holophrases [ilepartitravaje] il est parti travailler and [jainêksida] 'il y a eu un accident'. Because of the fact that Abdessamad orders the events in a different chronological line than presented in the stimulus-film, I have to present larger pieces of discourse.

(1) The marking of Tst < TT: "I have stolen the bread" and "I have found a house"

(8.26) I HAVE STOLEN THE BREAD

<table>
<thead>
<tr>
<th>AS 2.9</th>
<th>3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>i [veni] voilà moi je [domâde] travail</td>
<td>après charlo i [ete] au prison duc jours</td>
</tr>
<tr>
<td>he come look I ask work</td>
<td>a peu près</td>
</tr>
<tr>
<td>[ila ete] au prison je [se] pas</td>
<td>then charlie was in prison for</td>
</tr>
<tr>
<td>[iledonu] en papier pour</td>
<td>about two days</td>
</tr>
<tr>
<td>[travaj]</td>
<td>[ileprâ] le papier</td>
</tr>
<tr>
<td>he give a paper for work</td>
<td>he come out prison, he give the</td>
</tr>
<tr>
<td>[ilepartitravaje]</td>
<td>document</td>
</tr>
<tr>
<td>he leave for work</td>
<td>[ilepartitravaje]</td>
</tr>
<tr>
<td></td>
<td>he leave for work</td>
</tr>
<tr>
<td></td>
<td>le chef de usine [imadi] va [SésSe]</td>
</tr>
<tr>
<td></td>
<td>the director say and now go look for a</td>
</tr>
<tr>
<td></td>
<td>une cle</td>
</tr>
<tr>
<td></td>
<td>the key</td>
</tr>
<tr>
<td></td>
<td>alors i [SEsS] n importe quoi</td>
</tr>
<tr>
<td></td>
<td>so he look for no matter what</td>
</tr>
<tr>
<td>(...)</td>
<td>(...)</td>
</tr>
<tr>
<td>[ja] une petite fille dans le fargo</td>
<td>après [ja] une fille son pere i [travaj] pas</td>
</tr>
<tr>
<td>there is a little girl in the</td>
<td>then there is a little girl her father</td>
</tr>
<tr>
<td>police car</td>
<td>work not</td>
</tr>
<tr>
<td>même le fille [ilevole] parceque</td>
<td>[sete] au chomage</td>
</tr>
<tr>
<td>the same girl steal because</td>
<td>le fille qui va à le port i [vole] ks bananes</td>
</tr>
<tr>
<td>there is no bread</td>
<td>it was in non-employment</td>
</tr>
<tr>
<td>[ilevole] les bananes et tout ca</td>
<td>le fille qui va à le port i [vole] les bananes</td>
</tr>
</tbody>
</table>

[ilevole] le pain et tout ca pour [m.AZa]
he (=she) steal the bananes and everything

[ileramene] les bananes a son père

he (=she) take the bananes to her father

alors [jaōekstida]

then there has been an accident

[revej] le fille

wake up the girl

[i di le] par exemple

he say for example

[revej toi, revej toi]

wake up wake up

[se] patron de la pain [leveny ] derrière

and the boss of the bread come after the girl

[ilmadi]

"pourquoi tu vole le pain"

he catch say you steal the bread

le charlot [ilmadi]

charlot say

non [se] moi je [vole] le pain

no it is me I steal the bread

[se] pas el

it is not her

In cycle 2, the reported speech of Charlie ‘I have stolen the bread’ is absent. Abdessamad only mentions this scene as a kind of flashback when he tells about the encounter of Charlie and the girl in the police car. The only contrastive form to the V-[e] one is the V-∅ form in the command [revej] toi ‘wake up’. Because all other verb forms are in V-[e] format, there is no evidence to support the lexical aspect hypothesis. The reported speech of ‘I have stolen the bread’ in cycle 3 may be almost considered literally the same as that of Abdelmalek and Zahra: [se] moi je [vole] le pain.

Note that Abdessamad uses a V-[e] suffix for a 2-state verb in the utterance voila va [SerSe] une de ‘and now go look for a key’ (reported speech of the director of the enterprise). Again it seems that a proto-AUX - in this case the target auxiliary va ‘goes’ indicating prospective viewpoint aspect - triggers form variation in the main verb. In the succeeding utterance, Abdelmalek again uses the basic form V-∅ for chercher ‘look for’: alors [izVeX] n’importe quoi ‘so he looks for no matter what’. It seems that Abdessamad is aware of formal distinctions in the suffix-area triggered by differences in prospective versus perfective viewpoint on the events. On the basis of this diagnostic context, it seems that formal distinctions are not based on differences in the inherent lexical features of the predicate but on differences in aspectual viewpoint. The verbal coding V-[e] for a typical 2-state verb cluster [ilesor] ‘he comes out’ also goes against the lexical aspect hypothesis.
Below I present a part of Abdessamad’s retelling which contains both simultaneous events and the ‘finding the house scene’. Note that 1-state verbs take a V-[e/i] suffix and a V-∅ suffix in cycle 2: [parle] and [rest]. The 2-state verbs also take V-[e/i] suffix and a V-∅ suffix: [ilparti] and [iuvr]. In cycle 3, however, it becomes more difficult to find 1-state verbs with V-[e/i] endings and 2-state verbs in the short V-∅ form. Note, however, that the 1-state verb rester ‘stay’ takes a V-[e] suffix in [ilereste sarwar].

(2) Simultaneity; Tsit1=TT1, TT1=TT2 and Tsit2 c/⇒TT2

(8.27) [rest] ça [fe] un quart d’heure
he stays for an quarter of an hour
omme le jardin
in the garden
[lerwar] le charlo avec le fille
it shows Charlie and the girl
après [ileparte] avec charlot
afterwards he(she) says to Charlie
bon [ale] [oniva]
okay, let’s go
[ilerpar] avec le fille
afterwards he has left with the girl
mème temps [ilEsvy] sur un gage un jardin
at the same time he arrives at a
garden
il [ileprép] une [nwaje] par exemple
to find us a house for example
[ilepar] avec moi
afterwards he has left with the girl
[illamahde] la fille
he asks the girl
[iladoe] [ilepar] avec moi
afterwards he has left with the girl
[ilemãZe] après [ilarãZe]
he eat and then he cleans up
I not have he also
[ileparte] dans cinq jours comme ça
he has left for vife days
[lilepl] en planche sur la tête
le fille [ilefrkãte] beaucoup de coins
falls a beam on his head
the girl visits a lot of corners
alors i [rïgard] le [pale]
so he looks at the wood
[ilatra] la fille
the girl visits
so charlie chaplin he too
[ilatru] charlie chaplin
the girl has found charlie chaplin
alors il[imad] voye je [truc] le layer
so he says I found a house
[alô] tout
he turns down everything
Saying [fe] elle maison ‘he make a house’ (cycle 2) is unusual but the utterance je [truc] le layer in cycle 3 is almost standard for all learners. The commands (in reported speech) are target language-like and contrast to other forms of the same verbs in the rest of the discourse (e.g., [ij-e] versus [enimi]). In general the utterances in the reported speech are very native-like in Abdessamad’s cycle 2 and in cycle 3. Take, for example, in cycle 2 bon [ale] [oniva][struve] une [nwaje] ‘bon, allez’...
on y va, on va trouver une foyer pour nous and [eske: vaze] le loyer ‘est-ce vous avez une foyer?’

The first utterance in the example above contains two clear indicators of durativity and ongoingness conveyed by the inherent lexical features of the verb rester and the construction ça fait ‘it makes’ in combination with a temporal adverbial. This leads to a picture of simultaneity of the events “sitting in the grass” of Charlie and the girl and the “saying goodbye” of the other couple outside the house.

Note that in Abdessamad’s cycle 2 retelling, a lot of 2-state verbs have a V-∅ ending: [i regar le pale] and [i prà le pale] and [iuvr la porte]. However, in cycle 3 there’s a tendency of association of 2-state verbs with V-[e/i] endings and 1-state verbs with V-∅ endings. In the following section I present an overview of the basic forms of the most frequently used 1-state and 2-state verbs in all the Moroccan-French Modern Times retellings.

8.3 Quantitative overview of all the verbal forms used in retelling Modern Times

The diagnostic contexts have shown that there seems to be one basic and single form for each verb. Whereas I found a lot of prefixing and suffixing in Abdelmalek’s data, I did not find any indications that he associated a tense or aspect value with these morphemes. Zahra’s data show almost no verbal variation at all. Only in Abdessamad’s data does there seem to be a tendency to associate 2-state verbs with V-[e] and 1-state verbs with V-∅ endings. In this section, I give an overview of the most frequently used 1-state and 2-state verbs in the Modern Times film retellings. In particular I check, whether

(a) a particular category of verb (1-state versus 2-state) takes a particular type of verbal suffix (as has been concluded by Noyau 1995 on the same data)
(b) there is a development of morphologisation from cycle 2 to cycle 3 (except for Abdelmalek’s [ma] 3rd person agreement marking)

Abstracting from the personal pronoun markings in the prefix-area (if this is possible), the following basic forms can be observed for the most frequent verbs for each learner in cycle 2 and 3. I chose six change-of-state (2-state) verbs and six 1-state verbs.
Table 8.1  Overview of basic forms used by the French informants in the Modern Times retellings

<table>
<thead>
<tr>
<th>Abdelmalek</th>
<th>2-state</th>
<th>partir</th>
<th>voler</th>
<th>tomber</th>
<th>venir</th>
<th>ouvrir</th>
<th>retourner</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycle 2</td>
<td>eparti</td>
<td>avole</td>
<td>tõbe</td>
<td>evini</td>
<td>uvr</td>
<td>-</td>
<td>turn</td>
</tr>
<tr>
<td>cycle 3</td>
<td>maparti</td>
<td>mavole</td>
<td>matõmbe mevî~e</td>
<td>-</td>
<td>iturn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-state</td>
<td>chercher</td>
<td>rester</td>
<td>regarder</td>
<td>manger</td>
<td>dormir</td>
<td>connaître</td>
<td></td>
</tr>
<tr>
<td>cycle 2</td>
<td>SerS</td>
<td>reste</td>
<td>rogarde</td>
<td>manZ~Ze</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
<tr>
<td>cycle 3</td>
<td>meSerS</td>
<td>reste</td>
<td>rogarde</td>
<td>mam~Ze</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zarah</th>
<th>2-state</th>
<th>partir</th>
<th>voler</th>
<th>tomber</th>
<th>venir</th>
<th>sortir</th>
<th>retourner</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycle 2</td>
<td>eparti</td>
<td>vole</td>
<td>trob</td>
<td>vî~e</td>
<td>-</td>
<td>-</td>
<td>iturn</td>
</tr>
<tr>
<td>cycle 3</td>
<td>eparti</td>
<td>tvole</td>
<td>evole trob</td>
<td>vî~e</td>
<td>-</td>
<td>iturn</td>
<td></td>
</tr>
<tr>
<td>1-state</td>
<td>chercher</td>
<td>parler</td>
<td>regarder</td>
<td>manger</td>
<td>dormir</td>
<td>connaître</td>
<td></td>
</tr>
<tr>
<td>cycle 2</td>
<td>SerS</td>
<td>parl</td>
<td>rogarde</td>
<td>manZ</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
<tr>
<td>cycle 3</td>
<td>SerS</td>
<td>parl</td>
<td>rogarde</td>
<td>manZ</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abdessamad</th>
<th>2-state</th>
<th>partir</th>
<th>voler</th>
<th>tomber</th>
<th>venir</th>
<th>sortir</th>
<th>retourner</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycle 2</td>
<td>eparti</td>
<td>evole</td>
<td>etõbe</td>
<td>vî~e</td>
<td>isort/ ilesorti</td>
<td>-</td>
<td>iturn</td>
</tr>
<tr>
<td>cycle 3</td>
<td>eparti</td>
<td>vole/evole etõbe</td>
<td>etõbe</td>
<td>vî~e</td>
<td>-</td>
<td>iturn</td>
<td></td>
</tr>
<tr>
<td>1-state</td>
<td>chercher</td>
<td>parler</td>
<td>regarder</td>
<td>manger</td>
<td>dormir</td>
<td>connaître</td>
<td></td>
</tr>
<tr>
<td>cycle 2</td>
<td>SerS</td>
<td>parl</td>
<td>rogarde</td>
<td>manZ</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
<tr>
<td>cycle 3</td>
<td>SerS</td>
<td>parl</td>
<td>rogarde</td>
<td>manZ</td>
<td>dor</td>
<td>kone</td>
<td></td>
</tr>
</tbody>
</table>

This quantitative overview shows again that there is no evidence for the lexical aspect hypothesis (or Noyau’s Hi, see section 8.1); both 1-state and 2-state verbs take both V-[/e/i] and V-ô endings. Only in Abdessamad’s data, do V-[/e/i] suffixes tend to associate with 2-state verbs and V-ô endings with 1-state verbs. The
general picture which emerges from this quantitative overview is of a system
taking one single form for each verb.

In the next section, I compare the data from the Modern Times retellings with
personal narrative data from the same informants. I explained earlier (see
introduction to chapter 7) that personal narratives, in contrast to film retellings,
have a deictic anchor point, which is (normally) the past.

8.4 Comparison with personal narratives

In the previous section, the Modern Times data allowed me to determine whether
and how the Moroccan-French informants indicate a violation of default
discourse-pragmatic topic and focus conditions. How do learners at different
stages express, for example, that events are overlapping each other instead of
following each other? With respect to the question whether learners develop
morphological tense markings for expressing a change in the global TT-TU
relation, it was necessary to carry out comparative analyses with personal narrative
data. In contrast to the Modern Times retellings, these data are deictically
embedded in time and so they ask explicitly for a temporal relation between topic
time TT and time of utterance TU.

In the film retelling tasks, the learner can choose either a past or a present
anchor-time (see section 2.3.2). In the Dutch data, the use of a past versus a
present topic time shifter was a clear indication of the learner’s intention to embed
the whole story in the past or in the present. For the French Modern Times data,
I did not have this indicator. In the following portions of personal narratives, I
look for form-function correspondences in general. In particular, I investigate the
analytic means (tadv and proto-AUX) for marking aspect and tense distinctions
and, in addition, I check possible one-to-one mappings of lexical aspect and a
particular verbal encoding.

ABDELMALEK

In this personal narrative about an event that happened a few days earlier at work,
Abdelmalek uses 1-state ([ reste]) and 2-state verbs ([ done]) in a V-e form and
shows no indication of a past tense marking. Note that the reported speech is
apparently the place for morphological bootstrapping; [Zẽne] and [ jĩe] are target
-like forms of j’en ai ‘I got this’ and tenir ‘hold it’.

(8.28)  AL 2’7 a
le patron [ ajen] [ ilmadi]
the boss he come he say
ou tu ret
where are you going?
moi je [ di]:

I say
voilà [Zãne] un rendez vous à cinq heures
I have an appointment at five
il [madi] non tu [reste] jusqu’à cinq heures
he say no you stay till five o’clock
je [di] je reste pas
I say I stay not
voilà je [done] les sous je [di] [ti~e]
I give the money I say hold on

In the following (re)telling, about his arrival in France, Abdelmalek uses the proto-AUX [je] ‘make’ in the preverbal area in the construction [je a marS] as an ingressive operator. The 2-state verbs se tromper ‘err’ and partir ‘leave’ occur with a V-∅ ending and in V-∅ form.

(8.29) AL 2.1
moi je [feamarS] avec la route
I begin to walk on the road
je [tripe] la route
I loose my way
je [par] avec la route de tran
I leave with the way of the train
(…)
après je [par] un jardin grand jardin
afterwards I leave a garden a big garden
toujours je [dor] jardin
every day I sleep in the garden
après je [SerS] un travail a vendanges
afterwards I look for work with reaping
il y a beaucoup d espagnols
there is a lot with spanish
ils [travaj] tout l espagnol
they work all the spanish
voilà je [reste] ici
I stay here

Both 1-state verbs travailler ‘work’ and 2-state verbs partir ‘leave’ show up in V-∅ form, a typical 1-state verb rester ‘stay’ takes the V-∅ suffix. Notice that the tadv toujours ‘always’ at first position typically quantifies over topic times (=every day).

In the following personal narrative, Abdelmalek describes his daily routine.

Note the striking similarities (with respect to the learner variety and to the content) with Ergun’s description of a day in his life as described in example 6.1 (at the beginning of chapter 6).

(8.30) AL 3.9
INT: comment tu t’occupe tu te ballades?
What do you do, you walk around?
AL: je [ti~e] un café
I come to a cafe
je [pre] un café
I take a coffee
In the personal narratives, we see two deviant forms which contrast with the basic forms used in the remainder of the narrative: [parti] and heb geslapen. For Abdelmalek, the basic form in this personal narrative is the V-0 form and for Ergun this is always the long form. I showed earlier that the initial vandaagavond zes uur ‘today evening six o’clock’ specifies the topic time TT in relation to the time of utterance TU. The diagnostic contexts have shown that the construction proto-AUX HAVE (ik heb geslapen) indicates the post-state of the event sleep in Ergun’s learner variety; at that topic time TT ‘six o’clock’ the sleeping was over. The same interpretation is possible for Abdelmalek’s utterances jusqu’a midi je [parti] ‘till twelve o’clock I leave’ and jusqu’à sept heures et demie je [parti] ‘till half past seven I leave’. This interpretation explains then the difference between the [parti] form used for the generic imperfective description of the daily events and the [parti] form for describing a perfect aspectual viewpoint.

ZAHRA
In a conversation about health insurances, Zahra says the following in order to indicate that the two-monthly injections are over:

(8.31) ZA 2.5

[se] les piqures tout deux mois [se fini]
it is the injections every two months

(...) quand les dents malade et après [eks] les papiers pour les enfants
when the teeth ill and then write the papers for the children
après moi [leparti] [SeeS] le docteur pour les soins
afterwards I leave search the doctor for care
Note that \( \text{[SserS]} \) occurs in a V-\( @ \) form whereas Noyau (1995; see also section 8.1) has argued that chercher in the (2-state) meaning of ‘to fetch’ should only occur in the V-\( [e] \) form in Zahra’s utterances.

In Zahra’s conversational narratives I also found four examples of the proto-AUX ingressive marker \( \text{komàsè} \) from the verb commencer ‘to begin’.

(8.32) ZA 3.9
\[ \text{il \text{komàsè} euh \text{màZe} sep beurs et demie} \]
he begin to eat at half past seven

ABDESSAMAD
In the following personal narrative (cycle 1), Abdessamad tells about one of his (past) experiences with bureaucracy at work.

(8.33) AS 1.4
\[ \text{[se] la femme \text{komàsè le prepare} le + la feuille pour le congé} \]
it is the woman begins to prepare the paper for the leave
\[ (\ldots) \]
\[ \text{moi je [travaj] deux jours} \]
me I work two days
\[ \text{i komàsè rãplir le cheque moi je [di] oh non [sa va] non [t ekri] pas} \]
she begins to fill in the cheque I say: oh no it’s okay do no write

Abdelmalek uses the construction \( \text{komàsè} \) two times. Over the whole retelling he uses this very productive construction six times in order to focus on the beginning of an event (ingressive aspect). The second set of utterances gives a clear picture of the simultaneity of two events, conveyed by the ingressive \( \text{komàsè} \). The lady begins to fill in a cheque \( \text{i komàsè rãplir le cheque} \) and Charlie intervenes by saying that she does not have to that: \( \text{ob non [sa va] non [t ekri] pas} \).

At the end of the second cycle, there are no indications of an emerging tense system for contrasting past versus present in Abdessamad’s personal narratives. In the following retelling, Abdessamad tells about experiences he had in the past while he was looking for a job. Even the predicative marker \( \text{[se]} \) is still used in its present form.

(8.34) AS 2.8
\[ \text{toujours moi je [SserXe] euh la place là} \]
all the time me I look a place
\[ \text{[ja] rien ab parfois je euh [Z eskri] dans l’entreprise} \]
there is nothing sometimes I write to an enterprise
\[ \text{et [se] comme ça [ile] besoin maçonnerie} \]
and this is how there is need for a bricklayer
\[ \text{par exemple [i ma rãvwaje] un lettre} \]
for example he send me a letter
\[ \text{maintenant [fo atãdrE] alors [Z atã]} \]
now have to wait so I wait
\[ \text{[ja] pas beaucoup de traval} \]
there is not much work
The contrast between [fo atârE] and [Z atâ] shows that Abdessamad, at this stage, is aware of differences between a hypothetical non-realized event and a realized event. He marks this difference with a proto-AUX [fo] for the hypothetical construction and with different V-endings.

At the beginning of the third cycle, Abdessamad’s repertoire of temporal reference constructions in French is almost native-like. He reports on a sales interaction that happened a week earlier and how he got held by the customs:

(8.35) AS 3.2

moi je [aStê] la marchandise avec un type qui [fe] un fourgonnette à toulon
me I have bought some merchandise with a type that makes(has) a van
in Toulon
mais moi je [domâk] la facture
but I have asked for th bill
mais lui [jama] pas [porte]
but he has not taken
demain je [ve al] à toulon
tommorow I will go to Toulon
je [SerSE] le bonhomme
I look for the good man
je [truve] je [domâk]
I find I ask
mardi demain je [ve al SerSE]
Tuesday tomorrow I will go look
(\)

[Z uvr] la porte
I open the door
 ila prezâte] la carte
he has presented his card
 je pas [domâk]
I not ask
moi je [di] [puve râtre] monsieur
me I say you can come in. mister
ab ben [ik râtre] chez moi
okay, he got in at my place
je [done] les chaises parce que [ja] deux personnes qui [ve]
I give the chairs because there is two persons that come
[ima di] ouf je [swi] fatigué
he have said to me ouf I am tired
parce que [rezâbite] à quatrième étage
because you live at fourth floor
(...)

moi je pas [dispary] ou quoi
me I not escaped of what
je [swi] ici à chez moi en même temps je [ve darive] à toulon
I am here at my place and at the same tiem I just got back from Toulon
moi je rolâ je [swi barli] à toulon je [swizâle] à toulon
here I am I am left from Toulon I have been to Toulon
Constructions like je [ve ale SèSè] ‘I will go look’, [vuzahite] ‘you live’, je [vj~e darive] ‘I just got back’, je [swi parti] ‘I am left’, and je [swizale] ‘I have been’ indicate that the verbal compound block has been broken down into at least the following target functional components: Pro AUX V. Note that these constructions often occur in reported speech episodes.

As far as the post-verbal suffix area is concerned the analyses are inconclusive. It seems that the V-[e] versus the V-[i] endings are non-functional. Abdessamad uses [domãd] once and [domãde] once without indicating a clear difference in function. I did not find evidence supporting the lexical aspect hypothesis; both 1-state verbs je [rest] and 2-state je [surr] verbs both show the V-[o] ending.

In this portion of Abdessamad’s personal narrative, for the first time, a clear tense marking for future reference occurs using the French periphrastic construction aller + V ‘going to’: mardi demain je [ve ale SèSè]. In general, Abdessamad uses analytical means instead of complex synthetic forms. Another remarkable acquired form can be observed in the utterance je [swi] ici à chez moi en même temps je [vj~e darive] à toulon. The target construction viens de V expresses the remote past ‘just V’ in French. It is a periphrastic way of expressing TT after Tsit: the perfect aspectual viewpoint. Again, Abdessamad uses an analytic construction following the one function one form principle (see section 4.3.3). In Abdessamad’s conversation at the end of cycle 3, he uses one compound synthetic form (futur du passé, conditionnel) je [vudre]. This is probably a non-analysed chunk often used in polite questions.

Finally, consider Abdessamad’s ingressive construction [i komāse] à [tõbe] ‘they begin to fall’ in this role-play ‘chez le coiffeur’:

(8.36) AS 3.8
oui mais après les cheveux [i komāse] à [tõbe]
Yes but afterwards the hair begin to fall

8.5 Conclusion and discussion

This chapter has provided an in-depth analyses of the acquisition of the French temporal reference system by Moroccan learners. In relation to the research questions as stated in section 5.1.2, I want to summarize the results for the Moroccan-French data in four parts.

(1) The verbal clusters mostly remained unanalysed by the Moroccan learners of French until the end of the study. In general, the Moroccan-learners of French took more time to disentangle the verbal cluster then the Moroccan learners of Dutch. As I have already suggested before (section 3.3), this must be a direct consequence of the opacity of the complex verbal cluster in French. These learners seemed all to take over what is presumably the most regular form of each
verb and this form has (at any stage) nothing to do with the lexical aspect of the verb. The diagnostic contexts have shown that verbal forms (or better verbal clusters) used for marking the post-state situations of "stealing the bread" and "finding the house" were not different from the verbal clusters used in the remainder of the retelling. The same holds for the retelling of the diagnostic simultaneous contexts: I did not find any contrastive morphologisation for marking simultaneity. At the end of the data-collection (after 30 months) Zahra seemed to be aware of the diversity of morphemes around the verb but she could not make a functional temporal reference system out of it. Abdelmalek’s learner variety was a good example of how forms can precede function in the acquisition of tense and aspect morphology. In the first cycle he already showed a lot of verbal differentiation but without any functional contrast. In the third cycle most of this verbal forms receive the [ma/e] prefix but as Noyau (1995: 178) already has explained this prefix does not have a temporo-aspectual function in Abdelmalek’s cycle 3 learner variety. However, the learner variety of Abdessalam at the end of cycle 3 clearly showed the discovery of some precise semantic values of the target morphological means. Constructions like je [swizale] ‘I have been’ and je [ve ale SerSe] ‘I will go search’ indicated the analysis of the verbal compound block into: PRO AUX V.

(2) The post-verbal suffix domain (e.g. V-[e] versus V-[ø]) was not the context which showed acquisitional progress (as is argued by Noyau 1995). It was in the pre-verbal area that in these learner data morphological experimentation began. Just like the Moroccan (and the Turkish) learners of Dutch, the Moroccan learners of French showed that free proto-verbal auxiliary like (proto-AUX) forms adjacent to the verb were the first indications of a creative verbal differentiation.

With respect to the form-to-function-to-position correspondences, I did not find a clear distributional system of early tense markers on first position and early aspect markings in front of the (main) verb as I found in the Dutch data (see section 7.6). There were, however, some striking structural similarities. First of all, the very productive predicative markers [se] ‘it is’ and [jana] ‘there is’, were always put in first position before the explicit ‘subject’ (see section 7.2). In most of the cases these constructions had more or less the same function as the Dutch dan is ‘then is’ and toen was ‘then was’, namely to assert the existence or the presence of the predicate and its arguments at a particular TT:

(8.37) AS 2.8
*jana* la femme *le pasE*
there is a woman comes by

(8.38) MO 3.9
*dan was die vrouw zeg tegen de bakker* 
than was that woman say to the baker
The verbal cluster which describes the event itself was embedded after the explicit subject. Unfortunately, the learners of French did not develop the past tense of [jana]. However, in the conversational data I found a clear example of [sete] as a past tense marking embedded in first position:

(8.39) AL 3.6

[sete] ife maladie
it was he make ill

Similar to what I have demonstrated for the Dutch data we see here again a (contrastive) past tense marking in initial position to have wide scope over the whole utterance (including the topic time TT). Note that the first tense and aspect markings emerged at the position as where tadaVs in (an earlier stage) expressed respectively topic time TT to time of utterance TU relations (for tense) and situation times Tst to topic time TT relations (for aspect). It seems that the position of tadaVs leaves traces for plugging in tense and aspect markings in a later stage of acquisition. The [jana] and [se] constructions mark the global topic time TT- time of utterance TU relation at the beginning of the utterances. The aspectual markers such as [sa je], [komã], [fini] were put in front of the verbal cluster in order to specify the aspectual character of the verbal phrase.

(3) Tense distinctions were not the first to be morphologically marked (as is argued by Dietrich 1995 et al. p. 271). The variation in proto-AUX in the pre-verbal area expressed clearly differences in aspectual viewpoints. Abdelmalek and Abdessamad used the modal auxiliary [ifo], the target ingressive commencer [komã], the idiosyncratic [fe à] and the formula [se fini] and [saje] in order to convey respectively prospective, ingressive and egressive aspectual viewpoint. Zahra also used the [saje] and [se fini] constructions for marking the end of a situation (egressive operator, which implies perfectivity). In retelling the simultaneous events Abdessamad used the rester + V construction in order to express imperfectivity via a periphrastic construction of durativity.

I have also found several examples of how these learners used temporal adverbials in order to express, via implicature, various aspectual viewpoints. Abdelmalek used déjà for marking a post-state viewpoint, Abdelmalek ça [fe] + temporal adverbial for marking durativity and so imperfectivity.

In sum, these analytical means acted as indicators of a violation of the focus condition. These constructions expressed contrasts to the default perfective viewpoint aspect such as a post-state déjà and [sa je] or a pre-state [sa] + V’ aspectual viewpoint, an ingressive [komã] and [fe à] or an egressive one [fini]. These were all proto-AUX like elements (with the exception of déjà and ça [fe]), that is, linguistic auxiliary-like constructions which are put in front of the verbs which they affect. From the diagnostic contexts it appeared that these proto-AUX markings only indicate aspectual viewpoints and not temporal reference in terms of a relation between the topic time and the time of utterance.
The inherent lexical features of the verbs did not attract a particular (pre)morphosyntactic coding (the lexical aspect hypothesis). The data in the diagnostic contexts did not support the tendency observed by Noyau that 2-state verbs occur with a V-[e] ending and 1-state verbs with a V-∅ ending. The data clearly showed that 2-state verbs such as demander ‘ask’ and ouvrir ‘open’ for the three Moroccan-French learners occurred in one single form which was not V-[e] as expected by the lexical aspect hypothesis. Furthermore, 1-state verbs such as rester ‘stay’ also occurred in a V-[e] form.

With respect to the shaping and the pushing factors that determine the acquisition of tense and aspect morphology, I discussed in section 5.1.2, three different factors that determine the meaning, the position and the form of the earliest verbal deviation: (1) the lexical aspect category of verbs, (2) the semantic, structural and formal characteristics of the source language and (3) the semantic, structural and formal characteristics of the target language. No traces are found of a distributional system of particular morphemes onto a particular lexical type of verbs (see (4) above) as is predicted by the lexical aspect hypothesis. Furthermore, as far as concerns the influence of the source and the target language, I have demonstrated that the Moroccan learners of French seem not to be sensitive to the morphosyntactic language-specific rules of the source and the target languages. Just like the learners of Dutch they put markers of aspectual viewpoint in front of the verb after the “subject” and markers of tense in utterance initial position to have wide scope over the entire utterance. This language-neutral structural embedding of the proto-verbal elements shows that the structural characteristics of the tense and aspect markings in the source and language do not play a decisive role. However, the wide variety of ingressive, egressive, imperfective, perfective, prospective and perfect viewpoint markers could be an indication that the aspect-based Moroccan-Arabic has a particular influence on the selection of information to be expressed in the learner French temporal reference system.

Recollecting the hypotheses I stated in chapter 5 concerning the form and meaning of the earliest verbal experimentations, these results clearly corroborate the grammatical aspect before tense hypothesis. The driving force or the communicative need to express aspectual viewpoint, needed for the establishment of temporal coherence in discourse, is the main decisive factor that accounts for the way these Moroccan learners of French enter the morphological tense and aspect system in the target language.
Chapter 9
Conclusions and discussion

The general aim of this study was to provide an overview of the untutored acquisition of temporal reference by second language learners of Dutch and French during a two-and-half-year period. The data were collected from the onset of the acquisition process in the host countries. The comparison between learners with different source languages (Turkish and Moroccan-Arabic) acquiring the same target language (Dutch) and learners with the same source language (Moroccan-Arabic) learning two different target languages (French and Dutch) provided a good testing-ground for the investigation of possible source and target language influences. The outcome of this longitudinal and cross-linguistic investigation shows striking similarities and differences.

In this concluding chapter, I will first describe the findings of this study with respect to the acquisition of a (second) temporal reference system (section 9.1). A substantial part of this study consisted of the establishment of a discourse-analytic framework to diagnose the expressive power of different learners’ linguistic repertoires. Therefore, in section 9.2, the development of these analytic tools is recollected, before I give a stepwise description of the acquisition of temporal reference in Dutch and French by the Moroccan and Turkish learners in the present study (section 9.3). Finally, I discuss in a rather tentative way, the factors or mechanisms which might have shaped and pushed the acquisition stages as they occurred in the present study (section 9.4).

9.1 The findings of this study

The following are the general research questions stated in chapter 5 (section 5.1):

(1) What linguistic means do second language learners use to mark temporal reference at a given stage of acquisition? How are the temporal properties of events conceptualised by the learner, how are the temporal concepts expressed, and how do the various kinds of linguistic means (lexical, grammatical, and discourse-based) interact under different contextual conditions?
(2) How does the balance between the various linguistic means change over time? What developmental patterns emerge in the course of the acquisition process, both on the semantic level and in the learner’s formal repertoire? How do these learners enter the target language-specific grammatical tense and aspect system?

(3) Why do learners develop a particular temporal form-function mapping? What mechanisms or factors drive the learner to acquire a particular temporal form-function mapping? Or, conversely, what factors block -sometimes permanently- the transition to a following stage of acquisition?

The overall picture which emerged from this study is that all learners of the present study went first through a stage in which adverbs, in combination with discourse-pragmatic means, established the most essential temporal relations. I have shown that a clever management of the semantic and structural (scope) properties of temporal adverbials (tadvs) may have blocked the morphological development of tense and aspect markings for some learners. Whereas all learners achieved the lexical stage of development, fewer learners achieved the morphological stage. For these learners, lexical means were, apparently, not enough.

Those learners who left the basic lexical stage, developed free morphemes (proto-AUX and proto-COP) in order to express grammatical viewpoint aspect and tense. Proto-AUX were embedded adjacent to the verb in order to express the aspectual character of the verb and proto-COP were embedded in utterance-initial position to anchor the total utterance at the time axis (tense). Evidence was found that this development of verbal morphology was shaped by the prior structural embedding of tadvs. Time setting adverbials were placed in utterance-initial position to have wide scope over the total utterance. Adverbials that specified the aspectual character of the verb were placed adjacent to the verb. The position of tadvs seemed to function as a mould in which into which, in a later stage of acquisition, free morphemes expressing tense and aspect could be plugged.

As far as semantic properties are concerned, the diagnostics of some well-defined discourse-contexts showed that the earliest experiments with verbal morphology expressed aspectual viewpoint. The learners of the present study, although all learning a tense-based target language, developed a morphological encoding for aspect (proto-AUX) first and only later for tense (proto-COP).

Two important conclusions can be drawn on the basis of these findings. One is related to the structural properties of the temporal devices and the other one to the semantic properties:

The basic positioning of tadvs functions as a mould for building up a second morphosyntactic tense and aspect system.

The first conclusion is that clear evidence has been found for specific placement restrictions for temporal adverbials establishing temporal reference in the Dutch
and French learner data. In accordance with the basic principles of information organisation, the temporal adverbial in the topic component had scope, to the right, over the whole utterance, while the adverb in focus affects just the focus, the expression of the event or state expressed by the verb. No utterance-final adverb was found expressing TT-TU(tense), nor was an utterance-initial adverb found expressing Tsit-TT (aspect). The same distribution recurred later, with the same systematic shift between initial and non-initial position for early tense and aspect markings. I suggest that this basic information structure, with its clear topic-focus partitioning and tadv specifying adjacent material under scope, functions as a mould for the learners’ morphosyntactic development.

In the case of the emergence of two proto-verbal markers, those in utterance-initial position were related, as tadv were before, to the time talked about, the topic time TT. They indicated the BEFORE, AFTER, or SIMULTANEOUS temporal relationship of the topic time TT to the time of utterance TU (tense). Early proto-verbal markers in front of the event-specification (the verb) in the focus constituent were related to the time of situation Tsit and indicated the BEFORE, AFTER, or SIMULTANEOUS relation of the situation time Tsit to the topic time TT (aspect). This positional distribution of proto-verbal markers entails that “the temporal scene” is established in utterance-initial position and that the aspectual character of the event is specified in front of the event-specification itself. In sum, it seems that learners put together what belongs together.

**Grammatical aspect marking before tense marking**
The diagnosis of the semantic properties of the first occurrences of morphological markers has also shown that proto-AUX aspect contrasts, embedded within the focus component, precede proto-COP tense contrasts. These proto-verbal auxiliary markings were a precondition for acquiring the expression of the relation between TT and Tsit (grammatical viewpoint aspect) which turned out to be essential for the establishment of temporal coherence in discourse. For some learners of the present study, lexical and discourse-pragmatic ways for the expression of viewpoint aspect appeared to be communicatively inadequate in the diagnostic contexts. In contrast, for the expression of tense, learners seemed to be satisfied for a long time with tadv and discourse-pragmatic means to indicate the relation of TT to TU.

Besides the general aim of this study to describe the acquisition process (see research questions 1 and 2 above), a more challenging and tentative goal was to explain why learners move one and go beyond a basic lexical stage of temporal reference. Therefore, I needed analytic equipment which would enable me to compare the power of different learner repertoires to express temporal reference in discourse.
9.2 The analytic equipment for studying temporal reference in discourse

The theoretical observations made in the first part of this study (chapters 2 to 4) revealed that the interaction between discourse principles at the global level and temporal linguistic devices at the local utterance level plays a significant role in the acquisition process of second language learners. Implicit discourse-pragmatic principles and explicit linguistic means, i.e. lexical temporal adverbials and morphosyntactic tense and aspect markings, work together to establish the temporal coherence in discourse, in learner varieties and in fully-fledged languages. Languages differ in the extent to which they provide lexical words, grammatical constructions, or implicit means for temporal reference. What has to be inferred in one language can be explicitly marked in another, and this has consequences for the way temporal coherence is established.

In learner varieties, the balance between what is said in words and what is inferred changes during the acquisition process. This implies that temporal coherence is established in different ways at different stages of development. Beginning learners first rely on an extensive scaffolding of the linguistic contributions of the interlocutor (who explicitly marks the appropriate temporal coordinates of the discourse) and they appeal strongly to the interlocutor’s inferential abilities. They may even use gestures to indicate basic temporal notions like BEFORE, NOW, ITERATIVITY, ONGOINGNESS, etc. (see Gullberg 1998, cf. Housen 1993, 1994). Later on, they develop tads and some learners show the beginnings of development in morphosyntactic tense and aspect marking with morphological experiments. The difficulty in the analyses of these learner data, which often rely heavily on contextually given or previously established information and on presupposed shared knowledge is to make the right inferences concerning the temporal information. This requires for well-defined analytic equipment which can handle both temporal and discourse analyses.

The temporal framework I used in the present study is based on Klein (1994). I needed a language-neutral framework which can handle the changing interaction over time between the various linguistic temporal devices at the morphosyntactic, lexical and discourse level. One of the primary concerns of this study was to determine the forces responsible for the development of all types of linguistic markings of temporality in second language learner varieties, and the particular shape of this development. Although the Reichenbachian (1947) tripartite system (point of reference $R$, point of event time $E$, and point of speech $S$) is widely used in the acquisition literature, I have opted for Klein’s account because it clearly distinguishes in a language-neutral way external temporal features (tense, aspect, and positional adverbials) and internal temporal features of linguistic devices (“Aktionsart” and temporal adverbials of duration etc.). In chapter 2, I presented Klein’s definitions of the three relevant temporal parameters, i.e. topic time $TT$,
time of situation \textit{Tsit} and time of utterance \textit{TU}, and showed in detail how his
definition of the topic time \textit{TT} gives content to the rather vague and multi-
interpretable point of reference \textit{R} (Reichenbach 1947). In Klein’s temporal
framework, which draws mainly on the classic three parameter approach (Paul,
1872), tense is defined as the temporal relation between topic time \textit{TT} and time
of utterance \textit{TU}, and (viewpoint) aspect as the temporal relation between topic
time \textit{TT} and time of situation \textit{Tsit}. The straightforward separation of tense and
aspect encodings as different temporal relations between different temporal
parameters, and a clear distinction between internal and external temporal features
allowed a better analysis of the way and the order in which temporal concepts or
functions are expressed in acquisition data.

My particular focus was in (the scope properties of) temporal adverbials,
because these lexical devices play an important role in learner varieties. I even
consider their expressive power to be a possible cause of stagnation in the
acquisition process. Deictic tandvs are excellent alternatives for the expression of
past, present, and future tenses. I have shown that a straightforward lexical
alternative for the expression of (grammatical viewpoint) aspect is difficult to find.
I demonstrated, in section 2.2.4, that, although temporal adverbials of contrast can
be considered as lexical compensatory devices for the marking of aspectual
viewpoint, the morphosyntactic aspect markings will always overrule the
contribution of adverbials like \textit{still} and \textit{already}.

The discourse framework I used is based on the interaction between second
language acquisition and language use. Learners develop linguistic means in order
to communicate (better). The assumption is that the ultimate goal of second
language learners is to convey optimal (temporal) coherence in order to
communicate better. This approach also considers communication difficulties or
communicative shortcomings crucial to understanding what may push the learner
to further acquisition. Learners develop tandvs because implicit temporal reference
is not transparent and efficient enough and so they also develop morphosyntactic
tense and aspect markings because of the communicative shortcomings of tandvs.
The challenge of this study was to pinpoint as precisely as possible these
communication difficulties and shortcomings. Therefore, I had to “measure” the
expressive power of the temporal linguistic repertoire of each learner at each stage
of acquisition, and compare these repertoires inter-individually and longitudinally.
What were the limitations of each repertoire? What can basic linguistic means
express and what can they not express?

As I explained at the beginning of this section, a lot of temporal reference can
be inferred from default discourse-pragmatic organisational principles. If someone
is telling a (personal) narrative, it can be inferred from the type of discourse that
the events follow each other and that the events already happened in the past. But
what if these basic discourse-pragmatic principles have to be violated for some
communicative reason? Then the learner can no longer rely on the basic discourse
principles, but has to indicate this violation explicitly. In an inter-individual and longitudinal comparison of some well-defined contexts, I diagnosed the expressive power of the various repertoires of linguistic means.

First, I defined three default discourse principles which establish the temporal frame in narratives, which are the main type of data of the present study. These default discourse principles are based on three larger types of discourse principles, (I) the classic Principle of mentioning the events in their Natural Order (PNO, cf. Clark 1973), (II) the Quaestio-model (Klein and von Stutterheim 1987) which considers each set of related utterances to be an answer to a particular “quaestio”, and (III) the Boundary-To-Order principle (Bohnemeyer 1998) which assumes a complementary relationship between boundary information via aspectual viewpoint markings and ordering information via tadvS and connectives like ‘after’ and ‘before’.

Once the discourse type (e.g. narrative, descriptive) has been established, a particular type of temporal organisation is implied. I explained that, on the basis of the shared knowledge of these three information organisation principles, some essential temporal inferences can be drawn on the basis of context without the necessity of linguistic means to render the temporal relations explicit. The learner can benefit from this implicit default temporal information. In narratives, essential temporal information can be inferred on default discourse conditions, which I referred to as (a) the topic condition (PNO; the TTs in a related set of utterances form a chronological chain), (b) the focus condition, i.e. the event described in the focus constituent of the utterance is “bounded” within the TT of the utterance; this implies a default perspective viewpoint, and (c) the global TT condition (the global relation of TT to TU in a related set of utterances stays the same unless it is marked otherwise). Obeying these principles implies that the learner does not have to mark explicitly at each utterance, in a particularly given text-type like a narrative, that events are following each other and that all events happened in the past.

However, some contexts of the Charlie Chaplin film fragment of Modern Times (1936) used as a stimulus for the film retelling tasks, require a violation of these basic constraints. These contexts are an excellent testing-ground for the diagnosis of the various repertoires of linguistic means. What can learners express and what can they not express at different stages of acquisition with respect to contexts in which the violations of these basic discourse principals is required? I defined as “diagnostic contexts” those scenes of Modern Times which might lead to a violation of the default discourse principles. That is,

(a) those scenes in which the events can not be told in chronological order because some events in the film happen at the same time. This implies that TT(1) is not after TT(2) but simultaneous to it and this implies a violation of the topic condition;
(b) those events which can not be told from the default perfective aspectual
viewpoint because, for example, the Tsit is before or after the TT. There is a dissociation of TT and Tsit, that is, between the temporal location of TT on the time axis and the time that Tsit actually takes place. This requires a perfect or a prospective aspectual viewpoint and thus a violation of the focus condition.

A violation of the third condition, the global TT-TU relation, is more problematic to capture in the film retelling data, but not impossible. Although a film retelling is not embedded in time, learners have to anchor the events on an imaginary time axis. They have to choose an anchoring tense. In the case of film retellings, this implies an imaginary past or present TT-TU relation. If learners deviate from the anchoring verbal (past or present) form in the film retelling data, then this might be an indication of a deviation from the global TT-TU relation. Still, I believe it is difficult to count on learners’ anchoring tenses in a type of discourse that is not anchored in time. That is why I also included the deictically embedded personal narratives in the comparative analyses.

9.3 A stepwise acquisition process

The development of temporal linguistic means by the Turkish learners of Dutch (Ergun, Mahmut, Osman, and Abdullah), the Moroccan learners of Dutch (Mohamed, Fatima, Hassan K, and Hassan M) and the Moroccan learners of French (Zahra, Abdessamad, and Abdelmalek) learners of the present study can be described in a stepwise model. The structural properties of these means proceed in accordance with the following three stages, going from scope adverbials to a syntactic structure.

Stage 1: The basic (lexical) stage
There is a structural embedding of tadvs in two distinct positions, one for specification of the topic time (utterance initial position), and the other for the specification of the situation time (adjacent to the VP or, in the very early stages, the ‘word’ denoting the situation). Fatima (M-D) and Zahra (M-F) fossilized at this stage and only increased their tadv repertoire. The analyses in chapter 6 have demonstrated that a basic repertoire of lexical tadvs allowed the learners of the present study to express tense (TT-TU) and a limited number of internal aspectual distinctions (such as habituality, continuity, and iterativity) using lexical contrast.

Stage 2: The free morpheme stage
Two distinct proto-verbal markers are structurally embedded at two different positions. First, free morphemes occur to mark the situation time in a BEFORE-AFTER-AT-relation to the topic time, adjacent to the VP, to indicate the aspectual character of the VP. Ergun (T-D) used the proto-AUX BE+INF (ii) versus proto-
AUX have+INF (heeft) verbal contrast to contrast imperfective versus perfect aspectual viewpoint. Mohamed (M-D) used modal proto-AUX+V to encode pre-state (prospective) aspectual viewpoint, the locative staat te 'stay', zit te 'sit'+V construction to express imperfective viewpoint, and have+PP for perfect and go+PP for ingressive aspectual viewpoint marking. Abdelmalek and Abdessamad (M-F) used the modal deontic auxiliary [ifo] ‘must’, the target ingressive [koma] ‘begin’, and the idiosyncratic ingressive [fe à] ‘make’, and the formulae [se fini] ‘it’s over’ and [saje] in order to convey prospective, ingressive and egressive aspectual viewpoint respectively. In retelling the simultaneous events Abdessamad used the rester ‘stay’ + V construction in order to express imperfectivity via a periphrastic construction of durativity. These are all auxiliary-like forms, which are placed in front of the verb to have scope over it and so express the aspectual character of the event or state. In a somewhat later stage of acquisition, in the Dutch data, the proto-COP is (present) versus was (past) tense contrast occured in initial position to mark the present versus past TT-TU relation.

In the French data, the function-to-form correspondences in the diagnostic contexts are not so clear-cut as in the Dutch data. This might be a direct consequence of the opacity of the complex verbal cluster in French. All learners of French of the present study took a long time to disentangle the synthetic cluster of morphemes around the verb into semantic units. However, although I did not find a clear distributional system of one-to-one mappings from early tense markers in first position and early aspect markings in front of the (main) verb, there was a similarity with the Dutch data. The very productive predicative markers [se] (identificational ‘it is’) and [jana] (existential ‘there is’) have more or less the same function as the Dutch dan is ‘then is’ and toen was ‘then was’. These predicative markers assert the existence or presence of the predicate and its arguments at a particular TT and they are always put in first position, before the explicit subject.

Mahmut, Osman and Abdullah (T-D), and Abdelmalek (M-F) stabilized at this stage. They spelled out the notions of tense and aspect in free morphemes, showing no packaging (inflectional devices) of morphemes on the basic forms. These learners used relatively fewer tadvs at stage 2 than at stage 1.

Stage 3: The packaging stage

This is the stage of packaging different proto-verbal markers (modality, tense and aspect) in finite verb forms. Hassan K, Hassan L and Mohamed (M-D) tried to package but failed. Only Abdessamad (M-F) at the very end of the data collection, seemed to master paradigms of verbal inflection for (at least) a couple of verbs.

The utterances in (9.1) below are good examples of stage 3 and show how Hassan K, a Moroccan learner of Dutch, tried to merge tense and aspect morphemes with main verbs. Hassan K failed to integrate the free past tense morpheme was and the main verb kom ‘come’, the event-specification itself in (9.1 a). In Dutch, these two forms should be packaged into one complex finite verb form kwam ‘came’
placed in second position. In (9.1 b) he succeeds in fusing the main verb komen ‘come’ and a past tense morpheme, which yields the inflected verbal form kwamen (indicating a simple past third person plural, but it also can be an unanalysed past tense chunk). However, there is still a free past tense morpheme was in second position, which is, in fact, the (syntactic) position for the inflected form kwamen. In utterance (9.1 c), the past participle gewoond ‘lived’ (perfect marking) is placed in the correct position but lacks the auxiliary heef ‘have’ to complete the morphosyntactic perfect marking. In utterance-initial position, there is again a free past tense marker which indicates a past topic time.

(9.3) 3.4 HK

a. ik was in nederland kom
   I was in netherlands come

b. dan die was een jongen bij ons
   then that was a boy with us
   op vakantie kwamen
   on vacation came

c. was in marokko gewoond bij ons
   was in marokko lived with us
   [When I came to the Netherlands, a boy came to us on vacation who
   had lived with us in Marocco]

My hypothesis is that, in the last stage of this stepwise acquisition process of morphosyntactic tense and aspect marking, L2 learners have to learn as a last step how to package these free morphemes in complex finite verbal forms expressing both tense and aspect. In the next section, I will discuss why (research question 3) the Turkish and Moroccan learners acquired the Dutch and French temporal reference system in a three-stage model as I just described (research questions 1 and 2).

9.4 Competition and interaction as explanatory factors

Besides the description of the acquisition process, a second aim of this study was to capture the mechanisms and factors determining an adults’ construction of a new linguistic-communicative system, and their interaction (research question 3). In the introduction of this book, I discussed two clusters of explanatory factors that might account for the way second language learners acquire a second temporal reference system: (1) the cognitive and linguistic make-up of learners, that is, the information learners bring along into the acquisition task, and (2) the propensity of learners to acquire, that is, the learners’ communicative needs. In this final section, I will argue that both clusters of explanatory factors interact to shape the learners’ second linguistic temporal reference system but that their relative weight changes over time.

Recollect, first, the two main conclusions of this study, (1) The basic positioning
of tadvs functions as a mould for building up a second morphosyntactic tense and aspect system, and (2) Grammatical aspect marking occurs before tense marking.

The first result is related to the structural properties of the linguistic means acquired; the second is related to their meaning. The question is how cognitive and linguistic predispositions interact with communicative factors to explain these results. From the empirical analyses of the present study it has become clear that second language learners are both guided and limited by the interaction of what they know from their first language with what the target temporal reference system looks like. For example, the Moroccan learners of French of the present study took a long time to disentangle the opaque French verbal cluster into semantic units in comparison with the Moroccan learners of Dutch which far more easily unpacked the complex verbal clusters in Dutch. The Moroccan and Turkish learners developed a wide range of aspectual viewpoint markings in the tense-prominent target languages Dutch and French to fulfill their “aspect-prominent source language needs”. Furthermore, the Moroccan learners of Dutch used a different basic verbal form (root + j) than the Turkish learners of Dutch (root + on). I explained this phenomenon by the interaction of a different basic word order in Turkish (SOV) and Moroccan-Arabic (SVO) and by the fact that, in Dutch, finite short forms are placed in second position and non-finite long forms are placed in utterance-final position.

However, the empirical data have also clearly shown that, in spite of the language-specific syntactic properties of the source and target languages, tadvs and the early proto-verbal tense and aspect markings were all placed adjacent to the material under scope. It is suggested in the present study that, because they are in a situation of “language-stress”, learners of a second language rely first on basic syntactic, semantic and discourse-organisation structuring principles to organise their utterances (topic-focus). That is, they put a topic and a time and/or place setting in an initial topic constituent, and they place the event-specification, which can then be further specified by, for example, temporal or spatial adverbials, in the focus component. Evidence has been found that learners’ development of verbal morphology is shaped by this prior structural embedding of adverbs. The same distribution that was found for temporal adverbials in the early stages of development recurred later with the same systematic shift between initial and non-initial position for tense and aspect notions. This basic information structure (with its clear topic-focus partitioning and temporal adverbs specifying adjacent material under scope) functioned as a mould for the learners’ progress. The internal organisation of the learners’ utterances observed in the present study was not that of the source language nor that of the target language, nor a mixture of both. My hypothesis is that under communicative pressure, learners put together what (conceptually) belongs together irrespective of the properties of the source and target language and their cognitive and linguistic make-up.

Assuming that communicative pressure pushes the second language learner to
develop further linguistic means, the development of verbal tense and aspect morphology must be explained by the communicative shortcomings of tadvs used in an earlier stage of acquisition. It is the learner’s propensity to acquire which pushes him to embark on the “insecure” grammaticalisation process and to leave the safe lexical stage of marking temporal reference by means of tadvs. Why, then, is grammatical aspect acquired before tense? Is it the influence of the source or the target language, or can this order of acquisition be explained by communicative factors? In the following, I will argue that both the morphological development itself and the order of development, namely grammatical aspect before tense, can be explained in the same way: grammatical aspect, e.g., the temporal relation between the topic time TT and the time of situation Tsit, the aspectual viewpoint, can be better and more efficiently expressed by morphological markings than by lexical tadvs, and is more “urgently” needed in the establishment of temporal discourse coherence than in the establishment of tense. The question is why? First, I will describe what tadvs can express and what tadv can not express. What are the communicative shortcomings of tadvs in comparison to morphological tense and aspect marking? Secondly, why is aspectual viewpoint marking so important for the establishment of temporal coherence in discourse? First of all, I have to admit that it has been very difficult to determine why, for some learners of the present study tadvs seem to have had particular communicative limitations which could, apparently, be better solved by morphological tense and aspect markings. The solution to this may also explain why not all learners developed morphological tense and aspect marking. Fatima, Mahmud, and Zarah all “fossilized” at a basic level, in which they used tadvs and did not develop morphosyntactic tense and aspect markings. The explanation for the “fossilization” is necessarily very suggestive and needs to be better worked out. Although I consider the entire sociolinguistic matrix a learner brings to the acquisition as relevant to its speed and rate of success, I concentrate in the present study on language-internal communicative factors, that is, the expressive power of linguistic repertoires. The use of tadvs can be considered as the most basic way of expressing temporality. Most languages use a wide variety of all types of tadvs. Because these express temporality in a lexical and not in a language-specific morphosyntactic way, second language learners use them very successfully. In chapter 2, I have shown that temporal adverbials express both internal and external temporal properties of time spans (see 2.2.1). They can specify the internal duration, the boundaries, and the frequency of a time span and they can specify the external relationship between a TT, the time talked about, and another time span which is given in context. If this other time span is deictically given, the temporal relationship which is specified is the one between the time talked about TT and the time of utterance TU. The tadv yesterday, for example, indicates the temporal relationship between TU today and the TT the day before today. From section 2.1.2, it is known that this lexical temporal marking indicates exactly the same external
relationship as grammatical tense marking does on the verb; in this case, the
before relation of TT to TU (e.g., past tense).

In contrast, a lexical specification of an ordering relation between TT and Tsit
(aspect) is not so evident as for a lexical specification for tense. Although tadvs
can specify very precisely TTs or Tsits themselves, they cannot specify an ordering
relation between a TT and a Tsit, nor the difference between a TT included
in Tsit and a TT included in TT. This implies that tadvs do not have the same
expressive power to indicate the aspectual perfect (TT>Tsit), prospective
(TT<Tsit), imperfective (TT included in Tsit) and perfective (TT includes Tsit)
variation as aspectual viewpoint markings do around or at the verb. Although I
demonstrated how one particular type of tadvs, namely contrastive tadvs (TAC),
have the potential to express grammatical aspect, I had to conclude that
morphosyntactic aspectual devices (see example 2.15) and that a more synthetic linguistic device is needed.

However, tense marking is a deictic relationship between the time of utterance
TU and the time talked about TT. This implies that one of the two time spans is
already given, namely the time of utterance TU. One deictic adverbial, like yesterday,
is enough to create the TT-TU relationship. In the case of aspect marking,
considered a temporal relationship between the time talked about TT and the time
of the event talked about Tsit, both time spans are unknown. This means that a
triple specification is needed. The individual time spans TT and Tsit need to be
specified, as does the relationship between them. Tadvs do not have the same
unambiguous and expressive power as grammatical aspectual viewpoint markings.
A more synthetic linguistic device is needed and this involves grammaticalization
of the language variety.

In short, based on my theoretical considerations in the first part of this study
my hypothesis was that the fact that second language learners develop
morphosyntactic tense and aspect markings at all can be explained by the same
reason as why they develop aspect before tense. Tadvs cannot express the
temporal relationship between TT and Tsit in the same straightforward and
efficient way as morphological aspectual viewpoint markers do. In contrast, tadvs
can express in straightforward and unambiguous way. The empirical analyses in
the chapters 6, 7 and 8 corroborated this hypothesis.

The first occurrences of morphological tense and aspect markings observed
in the Dutch and French learner data were proto-AUX embedded in the focus
position of the utterance, adjacent to the verb, to indicate the aspectual character
of the verb. In the French data these were free morphemes with a clear semantic
content. The Moroccan learners of French used the modal deontic auxiliary [jo]
‘must’, the target ingressive [komas] ‘begin’ and the idiosyncratic ingressive [je à]
‘make’, the durative rester ‘stay’ + V and the formulae [se fini] ‘it’s over’ and [saje]
in order to convey respectively prospective, ingressive, imperfective and egressive
aspeutal viewpoint. In the Dutch data, the first experimentation with verbal
morphology was the proto-AUX have+pp construction which, as I only could
conclude on the basis of my diagnostic analyses, clearly indicated a perfect aspectual viewpoint. Only later in the acquisition proto-COP ‘be’ occurred which indicated a present versus past contrast in the topic component of the utterance. These observations in the French and Dutch data, I took as evidence for the hypothesis that grammatical aspect is acquired before tense. The diagnostic contexts have clearly shown that if the learners of the present study were “obliged” to violate the three basic discourse-pragmatic principles, these violations were indicated by proto-AUX in the focus component of the utterance to express the aspectual character of the verb. For example, in case of two different aspectual perspectives (TT-Tsit) for situations within the same deictic temporal location (TT-TU), the two different viewpoints were differently marked. However in cases that the same aspectual perspective on situations could be taken but with different temporal locations, the tense contrast was not marked. The morphological marking of aspectual viewpoint seems to be more “communicatively needed” then the morphological marking of a tense contrast.

However, one may also believe that the use of the perfect HAVE+PP construction in the diagnostic contexts of, for example, ‘Charlie has stolen the bread’ (Tsit < TT=TU) could be better, and more simply, explained by the lexical aspect association of 2-state verbs with a perfect instead of a grammatical aspectual viewpoint explanation. This might be a variant of the lexical aspect hypothesis (cf. Andersen & Shirai 1994, Bardovi-Harlig 1999), which claims that morphemes which, in the target language, mark pastness, anteriority and/or perfectivity first appear with punctual and/or telic verbs. Notice that this is a shaping factor or filtering mechanism which might guide the learner through the complex target morphological tense and aspect system. This is not a pushing factor. The “redundant” marking of the lexical internal features by a morpheme which prototypically is the most congruent to these lexical features cannot be explained by communicative factors.

In chapter 7, I demonstrated in detail by means of discourse-analyses that although lexical aspect is an import cue in the shaping process of the acquisition of verbal morphology, it is the aspectual context which ultimately determines the form and the meaning of the earliest proto-verbal elements. The communicative “need” (the pushing factor) to contrast aspectual viewpoints on events overrules the congruence principle of marking redundantly the lexical features of the verb (a shaping factor). A quantitative analysis investigating the role of lexical (or inherent) aspect in the developmental distribution of the temporal morphology of all the verbs used in the whole corpus of the learners of Dutch, has given me more evidence to suggest that the single (shaping) factor ‘lexical aspect’ is not enough to explain the variation in early proto-verbal tense and aspect markings. Although the basic semantic features of the lexical content of verbs (0-, 1- and 2-state verbs) attract at first a particular morphological coding, the diagnostic contexts have shown, that in actual production, the aspectual viewpoint overrules the lexical aspect marking.
These results corroborate my conclusion, stated at the end of chapter 4 that the relevance principle and the congruence principle, used as explanatory factors for the affinity of certain tense-aspect morphology for verbs of particular lexical aspect classes within the form-to-function approach, are contradictory and used for the wrong reasons. The relevance principle claims that learners will use morphology that is relevant to the verb closest to the verb in question (Bybee 1985, Slobin 1985), and they will acquire these morphemes earliest (Andersen & Shirai 1994). This principle guides learners to find morphological markings that are relevant to the inherent aspectual meaning of the verb. The congruence principle guides the learner to select from the range of acoustically perceptual morphemes in the input, the morphemes whose meaning is most congruent with the inherent aspectual meaning of a given verb. But, how can the morpheme that is most congruent with the lexical content of the verb stem be of particular relevance to the verb stem unless it is there to say the same thing twice? Would it not be more logical for the learner to first develop grammatical markings that can help him/her to express that the aspectual viewpoint is in opposition with the internal features of the verbs, that is, to develop, for example, perfective markers for verbs with a durative lexical aspect meaning and vice versa (see also von Stutterheim 1991).

In my view, the relevance principle defined by Bybee (1995) can be better and more logically used to support the grammatical aspect before tense hypothesis. If one assumes that learners use first the morphemes most relevant to the verb, and relevance is explained in terms of the way morphemes change the relation of the basic verb meaning to the discourse unit (see Bybee 1985: 21, see also section 4.3.2), then it follows that grammatical viewpoint aspect marking must be the most relevant marking to a verb and acquired earliest. Grammatical viewpoint aspect marking, affects the aspectual viewpoint (the relation TT to Tsi) perspective on a situation/event dependent on the discourse context. Lexical aspect only “echos” what is already there in the lexical meaning of the verb.

Finally, recalling the grammatical aspect before tense hypothesis, Bybee’s analyses of the verbal morphological inflection in a 50 language sample also gives another perspective on the order of acquisition found in the present study: aspect before tense. In her language sample, she observed that aspect morphemes occurred closer to the verb than tense morphemes. She concluded, in view of her relevance principle, that tense seems to be less relevant to the verb than aspect: “a tense distinction does not affect the meaning of the verb, since the situation referred to by the verb remains the same whether it is said to occur in the past or present”. The fact that the second language learners of the present study developed first, those morphological elements that are most urgently needed in order to establish temporal coherence in discourse and placed these proto-AUX adjacent to the verb (and proto-COP “further away” in utterance-initial position) is extra evidence for the grammatical aspect before tense hypothesis in the perspective of the relevance principle.
References


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