

2 Frame of analysis

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In this chapter, we shall explain the way in which the data were analysed. A frame of analysis, such as the one used here, is not a theory which is meant to excel by the depth of its insights or by its explanatory power. Rather, it is an instrument designed for a specific purpose, and to serve this purpose, it should be simple, clear and handy. Moreover, it is allowed to ignore many of the subtleties and complications which a satisfactory theory of temporality and its expression in natural language eventually has to account for. On the other hand, it must not be at **variance** with such a theory. A frame of analysis, if it is to be more than a temporary crutch, should also be flexible in the sense that it can easily be enlarged, refined and made more precise, whenever there is need to.

The frame of analysis presented here is the outcome of several earlier attempts and considerable practical experience. In many respects, it is an elaboration of ideas sketched in Perdue (1984, chapter 7.4), which in turn are based on a number of previous empirical studies of temporality in second language acquisition, notably Klein (1981) and von Stutterheim (1986). During subsequent work, empirical findings have led to many changes, even compared to the project's final report (Bhardwaj, Dietrich and Noyau 1988), although most of these changes do not so very much concern our basic assumptions as terminology and presentation.

2.1 The inflexional paradigm bias

There are many ways in which temporality is encoded in natural language, notably:

- the grammatical categories tense and aspect;
- temporal adverbials of various types;
- special particles, such as the Chinese perfectivity marker *le*;
- inherent temporal features of the verb (and its complements), such as punctuality, durativity etc.;

- complex verb clusters, such as *to begin to sleep, to continue to smoke, etc.*

Studies on the acquisition of temporality, both in first and second language, typically concentrate on one subpart of this impressive armament - the morphological marking of tense and aspect, such as the acquisition of the *ing*-form in English, or of Polish verb inflexion (see, e.g. the survey articles in Fletcher and Garman 1986 and, for second language acquisition, Schumann 1987). We think that this "inflexional paradigm bias", whilst in accordance with traditional research on temporality in general linguistics, yields an incomplete and potentially misleading picture of the developmental process. First, tense and aspect marking are highly language-specific devices; it is very doubtful whether what is called "perfect" in English corresponds to Latin "perfectum" or to German "Perfekt", even when, as is the case for German and English, the corresponding forms look very similar and share the same origin. But for cross-linguistic purposes, we need language-neutral characterisations of what is expressed by these and other means. Second, heavy if not exclusive concentration on tense and aspect marking ignores the **interplay** of verb inflexion with other ways to express temporality, notably adverbials, and an essential part of the developmental process is the changing interaction between the various means available to express temporality. Third, the functioning of temporality is always based on a subtle balance of what is explicitly expressed and what is left to contextual information; again, a substantial part of the developmental process is the permanent reorganisation of this balance.

The point of this entire argument can perhaps be made clearer by a look at early - or at late but fossilised - learner varieties. Typically, these varieties lack any verb inflexion; they therefore have no morphological marking of tense and aspect. Nevertheless, their speakers manage to tell quite complex personal narratives, with a dense web of temporal relations (cf. Klein 1979, 1981; Dittmar and Thielicke 1981; von Stutterheim 1986, 1991). Merely analysing the growth of verb morphology will therefore miss important aspects of the learner's capacity to express temporality. For these reasons, focussing on tense and aspect would miss essential, maybe even **the** essential parts of the acquisitional process. Therefore, we need a somewhat broader approach, whose basic lines will now be sketched.

2.2 Linguistic meaning proper and contextual information

The functioning of learner varieties just as of fully-fledged language is always based on a continuous interaction between what is said in the words and what

is given in context. A speaker who, on some occasion, utters a sentence such as

(1) *He swallowed the frog.*

expresses a certain content which results from the lexical meaning of the individual words (or morphemes), on the one hand, and the way in which they are put together, on the other. The hearer may then combine this *linguistic meaning* proper with other information available to him or her, e.g. from previous utterances, from situational perception, or from general world knowledge. In general the hearer integrates linguistic meaning and *contextual information*-

It is useful to distinguish two ways in which contextual information is applied to complete the utterance, above and beyond what is made explicit by linguistic means. First, there is contextual information which is systematically used to fill certain well-defined "open slots" in the lexical meaning of expressions, notably deictic and anaphoric terms. In these cases, we shall speak of *structure-based context dependency*. In temporality, the most salient example is tense which is generally assumed to link some event or state - in brief, a situation - to the time of utterance (TU), and only contextual information allows us to determine what TU is in the concrete case. Other examples are temporal adverbials, such as *now*, *two weeks ago*, *then*, *some time later* and many others. Second, the listener may also add, with varying degrees of certainty, other features to what is actually expressed by (1), for example that "he" is now less hungry than before, or that "he" must have a really big mouth. This inference is not directly linked to structural means, such as tense marking or anaphoric pronouns, but more globally related to the linguistic meaning. Therefore, *inference* or *global contextual dependency* in this sense is less accessible to systematic linguistic analysis than structure-based context-dependency. But it is no less important for the functioning of temporality, especially when, as is the case in learner varieties, the available linguistic repertoire is quite limited. Global context dependency is at the very heart of the discourse principles to be discussed below.

2.3 Temporal relations and inherent temporal features

An utterance such as (1) expresses, by virtue of its linguistic meaning:

- some situation, the swallowing of some frog by some male entity;
- the fact that this situation occurred at some time before the time of utterance.

Therefore, it is useful to distinguish two components within the linguistic meaning. One part, roughly identical to the non-finite part "he swallow the frog", is

a partial description of the situation, and a second part relates this descriptive component to a particular time span (or a set of time spans), which belongs to some temporal structure. Since the descriptive component stems basically from the lexical content of the verb and its arguments, we shall call this part "lexical content" and refer it by pointed brackets, e.g. <he swallow the frog>. The three utterances

- (2) *He will swallow the frog.*
- (3) *He was swallowing the frog.*
- (4) *He has swallowed the frog.*

have the same lexical content as (1), but this lexical content is related to time structure in different ways. Note that the term "lexical content" relates to both simple and compound expressions: It is that part of the meaning of an utterance which you know if you knew only the language - words and syntax - and nothing else.

There is a difference between a **situation**, which obtains at some time, and the **lexical content** which selectively describes this situation. Normally, a situation referred to by some utterance has many more properties than are expressed by that utterance. Thus, most situations have a limited duration; but the lexical content of an utterance referring to this situation need not say anything about this duration, nor about any other of the many temporal properties of the situation itself.

A lexical content is a complex set of semantic features which stem from the lexicon. Some of these features are temporal, and this allows a classification of various types of lexical contents. Thus, <John be ill> involves one state, whereas <John become ill> crucially involves two distinct states (roughly "not be ill, then be ill"). Numerous such classifications have been proposed under different labels such as "Aktionsart, verb type, verbal character, lexical aspect", and others. After some initial piloting, we found it helpful to use the following four **inherent temporal features**:

- (a) $\pm B$ (oundary), i.e., does the lexical content specify boundaries or not? There may be a left boundary (LB) and a right boundary (RB). The latter is particularly important for discourse organisation.
- (b) $\pm CH$ (ange), i.e., does the lexical content involve an internal temporal differentiation? It may specify, for example, the beginning, middle or end phase of a situation, or it may specify that some assignment of properties (qualitative, spatial) changes over time.
- (c) $\pm D$ (istinct) S (tate), i.e., does the lexical content involve a "yes-no-transition"? Obviously, $+DS$ presupposes $+CH$, but not vice versa. The difference

is illustrated by contrasts such as between *to rot* and *to become rotten*, where the former does not imply that something *is* rotten at the end (transition from not rotten to rotten) but only that it is *more* rotten than before.

- (d) $\pm E(xtension)$, i.e., does the lexical content say that the situation has an extended or a "punctual" duration? Apparently, $-E$ presupposes boundaries, and one way to define $-E$ is to say that in this case, both boundaries collapse.

Utterances like (1)-(4) link a lexical content to some time span, which is part of a **time structure**. Opinions vary somewhat on how this structure is to be defined. We shall make the following simple assumptions:

- (A) The elements of the temporal structure are time *spans* (labelled here t_i , t_j , etc.), not time *points*.
 (B) There are two types of relations between time spans:
 (a) order relations, such as ' t_i BEFORE t_j ', ' t_i AFTER t_j ', etc.,
 (b) topological relations, such as ' t_i fully included in t_j ', ' t_i overlapping t_j ', ' t_i simultaneous to t_j ', etc.;
 (C) There must be a privileged time span, the time of utterance TU.

It is this time structure which allows us to define **temporal relations**, hence to relate some time span to some other time span. It allows the speaker, for example, to say that the time of some situation precedes the time of speaking, or follows it, or whatever the relation may be. Usually, there is a **functional asymmetry** between the two time spans for which the temporal relation obtains. One of them is supposed to be given, and it is in relation to this one that the other one is introduced. We shall call the latter the **THEME**, and the former, the **RELATUM**. Thus, in *five minutes ago*, the RELATUM is the time of utterance, and that time span which precedes the time of utterance by five minutes, is the THEME. In (1), the time of his swallowing the frog is the THEME, - because it is that time which is "localised in time" -, and the time of utterance is the RELATUM, i.e., the time span in relation to which the THEME is localised. In these two examples, the RELATUM is deictically given. There may also be anaphorical RELATA (for example the time of some event just talked about, as in *two weeks later*), or calendaric RELATA (as in *in 1992*, i.e., 1992 years after the birth of Jesus Christ). All of these RELATA play an important role in learner languages, but as we shall see, their role changes to some extent in the course of the acquisitional process.

Many temporal relations are imaginable between THEME and RELATUM, such as "shortly before, long before, partly before and partly in" etc. For our purposes, it was **mostly** sufficient to distinguish the following relations:

THEME (properly) BEFORE RELATUM

THEME (properly) AFTER RELATUM

THEME (properly) in(cluded in) RELATUM

THEME (properly) INCL(udes) RELATUM, i.e. the counterpart to IN

THEME AT RELATUM, i.e., more or less at the same time.

The relations BEFORE and AFTER reflect the order structure of time, IN and INCL reflect its topological structure (the inclusion of time spans in other time spans).

The latter relation AT, which is topological as well, is somewhat fuzzy, but it is useful to have such a category, because learners often do not discriminate between IN, INCL, "a little bit before", etc.¹ The reason that only five relations are discriminated here is a purely practical one: it is these five which apparently play a particularly important role in learner varieties. It should be clear, though, there they can easily be refined if need arises, i.e., if learners become more sophisticated in what they express.

In this section, we distinguished between inherent temporal features, on the one hand, and temporal relations, on the other. In the following, we shall sometimes speak of **internal temporal properties** and **external temporal properties**. The latter, i.e., the temporal relations, can be expressed by various means - by tense morphology and aspect morphology, by some (but not all) types of temporal adverbials, and finally, they show up in principles of discourse organisation.

Inherent lexical features, on the other hand, are either part of the lexical content of the verb, or they are marked by other types of temporal adverbials (e.g., adverbs of duration). We shall now have a closer look at these various expressive devices.

2.4 Tense and aspect

Conventional wisdom says that tense is a deictic category of the verb, or the verb phrase; it serves to situate the "event", or situation in general, in relation to the time of utterance (in special cases to other time spans, somehow given in context). Aspect, on the other hand, is neither deictic nor does it relate the situation to any other particular time span; it rather serves to indicate a particular perspective on the situation - the situation is presented as completed or not, from the outside or the inside, without or with reference to its inner constituency.² Both characterisations are highly problematic, and although this is not the place for an in-depth discussion, some of these problems should be pointed

out, because they have immediate consequences for the empirical analysis.

The standard characterisation of tense is apparently false in many common cases. This becomes particularly clear as soon as we do not only consider "events" in the narrower sense of the word but other types of situations. We would normally not assume that in *The lion was dead*, the lion's being dead precedes the time of utterance; it rather includes it (barring resurrection of the lion). Similarly, the utterance *The door was open* need not be false if the door is still open, hence, TU is included in the time of the door's being open.

The main problem with the standard notion of aspect as a particular "perspective" on the situation lies in the fact that notions such as "seen as", "presented as" are rather metaphorical and hard to define in a way which would allow the linguist to apply them in empirical work. What does it mean to say that in *John was sleeping*, the situation is shown in its inner constituency, and in *John slept*, without reference to this inner constituency? Is the difference between *The monument stood on the market place* and *The monument was standing on the market place* really the fact, that in the former case, this situation is seen from the outside, whereas in the latter, it is seen from the inside? What do these metaphors mean? In many cases, these terms sound very suggestive, but it would appear difficult to give them a precise definition, precise to the extent necessary for a frame of analysis.

For these and other reasons, we used an approach under which "situating in relation to TU" and "presenting under a particular perspective" come out as consequences, whereas the definition as such is strictly in terms of temporal relations.

In an utterance like

(5) *Yesterday at ten, John had left London.*

two quite different time spans are involved. First, there is **the time of the situation**, in brief TSit, here the time at which John left London. And second, there is the time for which it is claimed that at this time, John is in the poststate of leaving London. We shall call this latter time, here yesterday at ten, the **topic time**, in brief TT. TT is the time for which (*not* at which) an assertion is made by this particular utterance. It may, but need not coincide with the time of the situation.

The distinction between TSit and TT allows us a simple definition of tense and aspect. **Tense** is a temporal relation between TT and TU, **aspect** is a temporal relation between TSit and TT. For present purposes the following tenses and aspects are distinguished:

Tenses:	PAST	TT BEFORE TU
	PRESENT	TU IN TT
	FUTURE	TT AFTER TU
Aspects:	PERFECT	TT AFTER TSit
	IMPERFECTIVE	TT IN TSit
	PERFECTIVE	TT includes end of TSit and beginning of time AFTER TSit
	PROSPECTIVE	TT BEFORE TSit

The definition of tenses probably does not need further explanation; it corresponds to the usual characterisation of tense, except that it is not the "event" which is temporally related to TU but the time for which an assertion is made (and which may precede, follow, or more or less coincide with, TSit). Aspects are somewhat more problematic at first glance. We may paraphrase them as follows: PERFECT states that the time for which an assertion is made falls in the "post-time" of the situation (sometimes, there is no reasonable post-time; therefore, one cannot say *The lion has been dead*). IMPERFECTIVE means that the time for which an assertion is made falls within the boundaries of the time of the situation, whereas the PERFECTIVE means that the TT both includes part of TSit and part of the post-time of TSit; whence the idea of non-completion and completion, which is always relative to the time for which something is claimed. PROSPECTIVE, finally, is the counterpart to PERFECT, i.e., the time of the situation follows the time for which an assertion is made.

Tenses and aspects, as defined here, are abstract temporal relations.³ Languages encode them in various ways. It may be that a language collapses all tenses distinguished here in one morphological form, hence has no overt (morphological) tense marking; similarly for aspect. English, on the contrary, has a very clear and transparent system of tense and aspect marking. Basically, past tense morphology encodes PAST, present tense morphology encodes PRESENT, and future tense morphology encodes FUTURE. The simple form encodes PERFECTIVE, the *-ing* form IMPERFECTIVE, the perfect encodes PERFECT, and the *be going to* construction encodes PROSPECTIVE. Compare, for example, the following three utterances:

- (6) *The stork had swallowed the frog.*
- (7) *The stork was swallowing the frog.*
- (8) *The stork swallowed the frog.*

Tense morphology indicates in all three cases that TT - the time for which something is claimed - precedes TU. It leaves entirely open whether TSit is in

the past, too. Aspect marking says in (6) that TSit precedes TT, hence the swallowing is over at that time in the past and, consequently, at TU as well. In (7), TT is properly included in TSit. This gives us the impression that at TT, the stork is just "fully in the action", and it is open whether this action is over at TU (or any later time). In (8), TT includes not only part of the action, but also part of the time after TSit, and since TT itself is in the past, the action must be over at TU. But this is not expressed by tense morphology alone, rather by a *combination* of past tense and perfective aspect.

2.5 Temporal adverbials

Not all languages have formal devices to express tense and aspect, but all languages use a rich variety of temporal adverbials, and therefore, they are in a way more basic to the expression of temporality. This is also reflected in the eminent role which they play in learner varieties. There are three types which appear very early and are steadily elaborated. A fourth type comes in at a later stage but is then regularly used⁴. These types are temporal adverbials of POSITION (TAP), DURATION (TAD), QUANTITY (TAQ), and CONTRAST (TAC):

TAP: They specify the position of a time span on the time axis in relation to some other time span (such as TU): *now, then, yesterday at six, two weeks ago, on 1st June, 1992.*

TAD: They specify the duration (or, not exactly the same, but a related possibility, the boundaries) of a time span: *for many days, all week, from 3 to 5.*

TAQ: They specify the frequency of time spans: *twice, quite often, hardly ever.*

TAC: This somewhat heterogeneous class is comprised of a number of "small but important" adverbs with somewhat different function, such as *again, still, yet, already*. Many of these serve to mark a particular contrast: they pick out one particular time span, and not a different one which could have played a role. On a more refined level of analysis, one would have to divide this class up into several subclasses; but this is not necessary for present purposes.

Note that adverbials can express both "external temporal properties", i.e., temporal relations, and "internal temporal properties", such as duration, boundaries, etc. In fact, they are suited to virtually all types and shades of temporality.

In learner varieties, the first class, which expresses temporal relations, is clearly the most important one. In the initial stages, temporal relations of all

sorts are exclusively expressed by TAP in combination with discourse principles, to which we will now turn.

2.6 Discourse organisation and the "principle of natural order (PNO)"

In a coherent text, the whole information to be expressed is distributed over a series of utterances, rather than being projected into one utterance. This distribution is not done at random but is governed by several principles which impose a certain structure on the text. In particular, they constrain the way in which information is introduced and maintained. This "referential movement" (Klein and von Stutterheim 1992; von Stutterheim and Klein 1987) concerns several semantic domains, not just persons for which it has mainly been studied (Givón 1983) but also, for example, time and space. Thus, an utterance is usually temporally linked to the preceding and the following ones. The way in which this is done depends on the type of discourse. A narrative normally has a different temporal discourse structure from route directions or an argument. We shall briefly discuss this idea for the main discourse type studied here - personal narratives, i.e., oral accounts of incidents that really happened to the speaker.

A narrative in this sense consists of a **main structure** (narrative skeleton, plot line, foreground) and a number of **side structures** (background material), such as evaluations, comments, utterances which set the stage, etc. The main structure can be characterised by two conditions which constrain the referential movement, especially with respect to temporality, and define the topic-focus-structure of each utterance. They can be stated as follows:

Main structure of a narrative

Focus condition: Each utterance specifies a singular event whose time TSit falls into the topic time of that utterance. The event specification, normally by the verb, constitutes the focus of the utterance.

Topic condition: The topic time of the first utterance is either introduced by a TAP or follows from situational context. The TT of all subsequent utterances is anaphorically given by the relation AFTER. All TTs precede TU.

The first condition entails, among other things, that utterances of the main structure have PERFECTIVE aspect, and that the lexical content which describes the situation have the internal features +B(oundary), +D(istinct)S(tate). The

second condition entails that the TT of all utterances form an "anaphorical chain". This condition has been stated in the literature (Clark 1971; Labov 1972) under various labels. We will call it the **Principle of natural order** (PNO): 'Unless otherwise specified, order of mention corresponds to order of events'.

It is important to the general idea of discourse organisation that both conditions can be violated: they act as "default principles". Such violations lead to side structures of different types. For instance, an utterance may serve to specify a time span (rather than to have it automatically given by the topic condition). Typical examples are 'background clauses' such as *We were quietly sitting in the kitchen*. Very often, subordinate clauses serve exactly this function, and this is the reason why they normally belong to the background. Other utterances do not specify an event, as required by the focus condition; typical examples are comments, evaluations and descriptions which interrupt the narrative thread. We shall see later that these conditions - and the possibility of "overruling" them for specific purposes by other, more explicit devices - are crucial to an understanding of how the expression of temporality functions in learner varieties.

2.7 Summary

There are many facets of temporality, and they can be expressed in many ways in language. This expression is normally based on a subtle interplay of what is in the words and what is left to contextual information.

For present purposes, we made a distinction between **internal and external temporal properties**. Internal temporal features are inherent properties of the lexical content, such as duration, boundedness, yes-no-transitions, etc. They can be simply part of the lexical meaning of a verb, but also made explicit by specific adverbials, such as adverbials of duration. External temporal properties are temporal relations which obtain between two time spans - one time span which is "located" (THEME), and a time span, in relation to which it is located (RELATUM). A typical RELATUM is the time of utterance, a typical theme is the time of some situation ("event time"). There are three ways to mark temporal relations. These are (a) temporal adverbials of the type TAP, i.e., positional adverbials; (b) tense and aspect; (c) principles of discourse organisation, such as PNO, which act as a kind of default. Tense is a temporal relation between the topic time TT (i.e. the time for which a claim is raised), and the time of utterance, which serves as the RELATUM. Aspect, in turn, is a temporal relation

between the time of the situation TSit and TT. In other words, the "event" is not directly related to the act of speaking, but first to TT, and TT in turn to the time of utterance. This does not mean that all languages regularly mark this difference by morphological or other means, for example by discriminating between various possible aspects or tenses. In particular, this is not so in initial learner varieties. But it is exactly this that learners, among many other things, have to learn, if they want to adapt to the language of their social environment.

Notes

1. The same tendency has been observed (Carroll and Becker 1993) for spatial relations. Learners at first use an all-purpose form to mark that 'the THEME is where the RELATUM is', and the precise spatial relation has to be inferred.
2. See, for example, Bybee's definitions in the "International Encyclopedia of Linguistics" (1992, entry "Tense, Aspect, and Mood"): "TENSE refers to the grammatical expression of the time of the situation described in the proposition, relative to some other time. This other time may be the moment of speech: e.g., the PAST and FUTURE designate time before and after the moment of speech, respectively [...]. TENSE is expressed by inflexions, by particles, or by auxiliaries in connection with the verb [...]. ASPECT is not relational like tense; rather, it designates the internal temporal organization of the situation described by the verb. The most common possibilities are PERFECTIVE, which indicates that the situation is to be viewed as a bounded whole, and IMPERFECTIVE, which in one way or another looks inside the temporal boundaries of the situation.[...] These aspects are usually expressed by inflexions, auxiliaries, or particles."
3. Note that these definitions are not really at variance with the standard definitions, given above. They are only more general (and thus cover the particular problems with the tense of Stative expressions, as mentioned above), and they operate without metaphorical notions such as "seen in its entirety", "with reference to its inner constituency", etc. Instead, they make only use of pure temporal relations and the notion of "assertion" - two concepts which are needed independently. For a detailed discussion of these points, see Klein (1994).
4. See von Stutterheim (1991), and, to anticipate, this corresponds to our results, too.

References

- Bhardwaj, M., R. Dietrich & C. Noyau, eds. 1988. *Final Report to the European Science Foundation*. Vol. V: *Temporality*. Strasbourg.
- Bybee, J. 1992. Tense, aspect, and mood. *International Encyclopedia of Linguistics* ed. by W. Bright, 144-145. New York: Oxford University Press.

- Carroll, M. & A. Becker. 1993. Reference to space in learner varieties. *Adult language acquisition: Crosslinguistic perspectives. Vol. 2: The results* ed. by C. Perdue, 119-149. Cambridge: Cambridge University Press.
- Clark, E. 1971. On the acquisition of the meaning of 'before' and 'after'. *Journal of Verbal Learning and Verbal Behaviour* 10.266-275.
- Dittmar, N. & E. Thielicke. 1981. Der Niederschlag von Erfahrungen ausländischer Arbeiter mit dem institutionellen Kontext des Arbeitsplatzes in Erzählungen. *Interpretative Verfahren in den Sozial- und Textwissenschaften* ed. by H.-G. Soeffner, 65-103. Munich: J.B. Metzler.
- Fletcher, P. & M. Garman, eds. 1986. *Language acquisition: studies in first language development* (2nd edition). Cambridge: Cambridge University Press.
- Givón, T., ed. 1983. Topic continuity in discourse: Quantitative cross-language studies. *Typological studies in language, vol. 3*. Amsterdam: Benjamins.
- Klein, W. 1979. Der Ausdruck der Temporalität im ungesteuerten Spracherwerb. *Essays on deixis* ed. by G. Rauh, 149-168. Tübingen: Narr.
- Klein, W. 1981. Knowing a language and knowing to communicate. *Tilburg Studies in Language and Literature* 1.75-95.
- Klein, W. 1994. *Time in language*. London: Routledge.
- Klein, W. & C. von Stutterheim. 1992. Textstruktur und referentielle Bewegung. *LILI* 86.67-92.
- Labov, W. 1972. *Language in the inner city*. Philadelphia: University of Pennsylvania Press.
- Perdue, C., ed. 1984. *Second language acquisition by adult immigrants. A field manual*. Rowley: Newbury house.
- Schumann, J. 1987. Utterance structure in basilectal speech. *Pidgin and Creole languages* ed. by G. Gilbert, 139-160. Honolulu: University of Hawaii Press.
- Stutterheim, C. von. 1986. *Temporalität in der Zweitsprache: Eine Untersuchung zum Erwerb des Deutschen durch türkische Gastarbeiter*. Berlin: De Gruyter.
- Stutterheim, C. von. 1991. Narrative and description: temporal reference in second language acquisition. *Crosscurrents in second language acquisition* ed. by T. Huebner & C.A. Ferguson, 385-403. Amsterdam: Benjamins.
- Stutterheim, C. von & W. Klein. 1987. A concept oriented approach to second language studies. *First and second language acquisition processes* ed. by C. Pfaff, 191-205. Rowley, Mass.: Newbury House.