

# **EVENT STRUCTURE IN ZULU**

**BY**

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## **DECLARATION**

I, the undersigned, hereby declare that the work contained in this dissertation is my original work and that I have not previously in its entirety or in part submitted it at any university for a degree.



## ABSTRACT

This study deals with three interrelated types of information about sentences in Zulu, i.e. situation aspect or events, viewpoint aspect which includes i.a. the perfective and imperfective aspect and the contribution of the temporal location of a sentence focusing on the basic tenses. The semantic feature of temporal location has been integrated with the view of the two components in sentences i.e. aspectual situation type and viewpoint. Vendler's classification of aspectual classes formed a base from which the Zulu event structure has been discussed. The contribution of the two theories, i.e. the Two Component theory of Smith (1997) and the Event Structure of Pustejovsky (1995) which is situated within the Generative Lexicon theory of lexical semantics featured prominently in the analysis of events and states in Zulu. A conclusion has been reached that there are four situation types relevant to Zulu and distinguished from each other by different temporal features. These situation types feature basic-level and derived-level types (according to Smith (1997)).

Three event types have been identified for Zulu, i.e. state, process and transition (according to Pustejovsky (1995)). Events are complex semantic objects resulting in an extended event structure. Event structure classification for Zulu is established with structured sub-event. These event structures are defined with respect to three different types of ordering relation between sub-event, i.e. temporally ordered sub-events, simultaneous sub-event and temporal overlap. The event structure has been distinguished through event headedness which give rise to twelve possible constructions.

The basic principles and the temporal structures underlying the Zulu tenses are viewed in relation to the moment of speech, time of the situation and the reference time in the

structure of tenses as shown in the viewpoint of Reichenbach developed by Hornstein (1990). The role played by adverbs as modifiers of tense is highlighted. The behavior of bounded and unbounded sentences in relation to tense is mentioned.

Regarding the expression of aspect in Zulu, a clear distinction has been established between perfective and imperfective in Zulu. The aspect appears as an inflectional category within syntax. These categories may have a maximal projection according to the X-bar theory.



## Opsomming

Hierdie studie gee aandag aan drie onderling verbonde tipes inligting oor sinne in Zulu, d.i. die situasie-aspek of die gebeure, gesigspunt-aspek wat, onder andere, die perfektiewe en imperfektiewe aspek insluit en die bydrae van die temporele lokasie van 'n sin, met die fokus op die basiese tye. Die semantiese verskynsel van temporele lokasie is geïntegreer met die aanname van die twee komponente in sinne, d.i. aspektuele situasie tipe, en die gesigspunt. Vendler se klassifikasie van aspektuele klasse het die basis gevorm waarvan dan die Zulu gebeure struktuur bespreek is. Die bydrae van die twee teorieë, d.i. die Twee Komponent teorie van Smith (1997) en die gebeurde struktuur van Pustejovsky (1995) wat binne die Generatiewe Leksikon teorie van leksikale semantiek geleis, is in die analise van gebeure en toestand gebruik. Daar is tot die gevolgtrekking gekom dat daar vier situasietipes relevant tot Zulu is, en daar word tussen hulle deur middel van temporele verskynsels onderskei. Hierdie situasietipes beeld die basiese-vlak en die afgeleide-vlak tipes uit (volgens Smith (1997))

Drie tipes gebeure is vir Zulu geïdentifiseer, d.i. toestand, proses, en oorgang (volgens Pustejovsky (1995)). Gebeure is kompleks semantiese voorwerpe wat tot uitgebreide gebeurde struktuur lei. Die gebeurde-struktuur se klassifikasie in Zulu is met gestruktureerde sub-gebeure gevestig. Hierdie gebeure-strukture is met betrekking tot drie verskillende tipes van verhouding ordening tussen sub-gebeure omskryf, d.i. temporeel geordende sub-gebeure, gelyktydige sub-gebeure en temporele oorslag. Die gebeurde-struktuur is deur kerngebeure onderskei, wat aanleiding tot twaalf moontlike konstruksies gee.

Die basiese beginsels en die temporele strukture onderliggend aan die Zulu tye word met betrekking tot die spraakmoment, tyd van die situasie, en die verwysingstyd in die

struktuur van tye soos in Reichenbach se gesigspunt wat deur Hornstein (1990) ontwikkel, is, beskou. Die rol wat bywoorde as modifiseerders van tye speel, word na vore gebring. Die gedrag van gebonde en ongebonde sinne in verband met tyd word genoem.

Betreffende die uitdrukking van aspek in Zulu is 'n besondere onderskeiding tussen die perfektief en imperfektief in Zulu gevestig. Die aspek kom as 'n infleksionêre kategorie binne sintaksis voor. Hierdie kategorie mag 'n maksimale projeksie volgens die X-bar teorie hê.



## IQQQA

Lolu cwaningo lucwaninga izinhlobo ezintathu zolwazi ezinokuhlobana mayelana nemisho yesiZulu : izindlela zesilandiso ezincike esimweni noma isenzeko, izindlela zesilandiso ezincike embonweni – ezifaka isiqondiso esiqhubekayo nesiphelele esingayi ndawo kanye neqhaza elibanjwa isizinda somusho sesikhashana esigxile kakhulu ezinkathini. Uhlelomiqondo lwesizinda somusho sesikhashana senziwe saxutshwa nombono nokuhlaziywa kwezigaba ezimbili zomusho : izindlela zesilandiso ezincike esenzekweni nezindlela zesilandiso ezincike embonweni. Ukuhlelwa kwezigaba zezindlela kuka-Vendler kwakha isisekelo okusukela kuso isakhiwo sesenzeko somusho wesiZulu ngokwendlela okudingidwe ngayo kulolu cwaningo. Iqhaza lezindlela zocwaningo ezimbili : indlela yezigaba ezimbili [Two Component Theory] ka-Smith [1997], neyesakhiwo sesenzeko ka-Pustejovsky [1995] ezinze endleleni ye-Generative Lexicon yohlelomiqondo lwamagama ahleliwe lifakwe lagqama ekuhluzweni nasekuhlaziyweni kwezenzeko nezimo olimini lwesiZulu. Kufinyelelwe esiphethweni sokuthi kunezinhlobo ezine zesenzeko ezisebenzisekayo esiZulwini kanti zingehlukaniswa kwezinye ngokuthi kubhekisiswe isimo sesikhashana somusho. Lezi zinhlobo zezenzeko zibandakanya izinhlobo zeqophelo eliyisisekelo kanye neqophelo elisuselwe kwamanye (ngokuka Smith (1997))

Zintathu izinhlobo zezenzeko ezitholakala olimini lwesiZulu : esesimo esenzekayo kanye nesoguquko (ngokuka Pustejovsky (1995)) Izigameko yizinto ezingxube ngokohlelomiqondo eziholela ekwakhekeni kwesakhiwo esikhulukazi sesenzeko. Izigaba zesakhiwo sesenzeko esiZulwini sinesigamekwana esisungulelwe kuso. Lezi zakhiwo zesenzeko zichazwa ngokusebenzisa izinhlobo ezintathu zohleleko phakathi kwesesenzenkwanana – esihleleke isikhashana, esenzeka kanye nesinye, kanye nokugamanxana nokwelekana kwesikhashana. Isakhiwo sesenzeko sigqame ngokuba nenhloko eholela ekubeni khona kwezakhiwo ezingabalelwa eshumini nambili.

Imigomongqangi nezakhiwo zesikhashana ezilawula izinkathi zesiZulu zihlaziywa ngokubheka isikhathi senkulumo, isikhathi sesimo, nesikhathi okuqondiswe kuso ekwakhiweni kwezinkathi njengoba kukhonjisiwe embonweni ka-Reichenbach okhulise ngu-Hornstein [1990]. Iqhaza elibanjwa izandiso njengezingcezu izichaza inkathi liyabalulwa. Indlela yokuziveza kwemisho ezimele naleyo encikile iyabalulwa ibuye icaciswe.

Indlela okubekwa ngayo izindlela zesilandiso esiZulwini, ingcaciso, incazelo ecacile yakhiwe phakathi kwesiqondiswano esiphelele esingayindawo nesingapheleleesiqhubekayo esiZulwini. Izindlela zesilandiso zivela siyisigaba esijobelela siphongoze ohlelwenimisho. Lezi zigaba zingaba nokuveza nokugqamisa ngokwendlela ye-X-bar [X-bar Theory].

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# CHAPTER 1

## 1. INTRODUCTION

### 1.1 AIM OF THE STUDY

The research problem that will be explored in this study will firstly be concerned with the four traditional aspectual verb classes, and it is specifically centred on the question of whether it is possible to extend or delimit these classes for Zulu. The research aims to develop a theory of event structure for Zulu and to provide a theoretical account of this issue relating to the classification of aspectual verbs classes in Zulu. The aim of the study is therefore two fold : in the first place the research will focus on the applicability of Vendler's classification of aspectual class to Zulu. In the second place the research will explore the possibility of developing a theory of event structure which builds on the tradition of Vendler. Such a theory of event structure will be situated within a broader theory of lexical semantics with specific attention to generative lexicon theory (see Pustejovsky, 1995).

Through his classification of aspectual verb classes, Vendler addresses the problem of aspectuality, the property which makes it possible for a sentence to signal whether or not it pertains to something bounded. He distinguishes between four verb classes, i.e. state, activity, accomplishment and achievement. Various researchers have adapted Vendler's philosophic approach for the purpose of linguistic analysis. Prominent amongst these approaches are Dowty's reductionist approach, Hoeksema's cross-classification, Ter Meulen's hierarchy, Carlson's six aspectual classes and Moen's temporal ontology. Linguists have employed various features of aspectual classes in these approaches such as the features of continuous, definite, duration, momentary and process.

A different classification of aspectual verb classes which is based on a classification of temporal types, stems from the work of Aristotle. This tradition has i.a. been invoked by Kenny in positing a scheme based on partial ordering. This has lead to the tripartition of eventualities into states, processes and events. Kenny made a distinction between verbs having non-continuous tense (states) and verbs having continuous tense (activities and



performances). Aristotle distinguished actualities (states) from incomplete and complete movements.

The semantic features of these verb classes in Zulu will be examined in the study with regard to the first aim stated above. Special attention will be given to the verb and its arguments, i.e. the argument structure of a verb, in determining the basic-level and derived-level types according to Verkuyl (1993). Temporal features such as static, durative and telic will be examined with regard to a range of sentence constructions in Zulu representative of the respective verb classes.

With regard to the second aim stated above, the theory of event structure will then be utilized to expand on and refine the findings attained in the first part of the study. The focus will firstly be on the categorization of aspectual types of verbs in Zulu, as indicated above, i.e. activities, accomplishments, achievements and states.

The study will explore the possibility that it may be necessary to posit finer-grained descriptions as regard aspectual verb classes in order to capture aspectual distinctions for Zulu. In such a refined aspectual system events will have to be viewed as complex semantic objects resulting in an extended event structure. Such an event structure classification for Zulu will need to be established with structured sub-events. These sub-events may include investigation of aspects such as the partial order between sub-events, and a precedence relation and temporal inclusion. An event structure can then possibly be defined for Zulu with respect to three different types of ordering relations between sub-events. Such ordering restriction may include categories like exhaustive ordered part, exhaustive overlap part and exhaustive ordered overlap. The verb **akha** (build) in Zulu can for example, be analysed as involving a development process and a resulting state, ordered by the relation "exhaustive ordered part of".

The study will furthermore explore the necessity to include a distinction as regards sub-events that makes provision for unaccusativity i.e. event headedness as manifested in Zulu. The role of a head in a syntactic representation is to indicate prominence and distinction. Thus, the head is the most prominent sub-event in the event structure of a predicate. If events have a binary event structure and if there are three temporal ordering



relations, as indicated above, it may thus be possible to find six possible head configurations with two events, given a single head, whereas twelve possibilities may occur if unheaded and double-headed constructions are included (see Verkuyl 1993).

The second problem will focus on the contribution of Smith (1997) towards an extended view on events and aspect, i.e. on her situation aspect and viewpoint aspect, as well as the temporal location of a sentence. The study will thus focus on three interrelated types of information about sentences, i.e. situation aspect or events, viewpoint aspect which includes i.a. the perfective and imperfective aspect, and the contribution of the temporal location of a sentence, which will specifically concentrate on the basic tenses of Zulu. In this case the semantic feature of temporal location will be integrated with the view of the two components in sentences, i.e. aspectual situation type and viewpoint.

## **1.2 METHOD OF INVESTIGATION**

After study of the relevant linguistic literature on aspectuality the research will entail the collection of data from Zulu in order to examine the full scope of aspectual verb class phenomena. The judgements regarding the interpretation of the data will be examined in consultation with various first language speakers of Zulu in addition to taking into account my own judgements. The theoretical concepts and principles of the theory of aspectuality will be employed in advancing a classification system of aspectual verb classes in Zulu, taking into account the full range of lexical-semantic and morphosyntactic properties that are exhibited by the data.

## **1.3 ORGANISATION OF THE STUDY**

The study will be organized as follows :

- Chapter 1 Statement of aims of the study as well as its organization in sections.
- Chapter 2 Events and states in Zulu with regard to types and event structure.
- Chapter 3 An overview of tense and time in Zulu.
- Chapter 4 The ways in which aspect may be portrayed in Zulu.
- Chapter 5 Conclusions and presentation of the main findings of the study.



## **CHAPTER 2**

### **2. EVENT STRUCTURE**

#### **2.1 INTRODUCTION**

The aim of this chapter is to investigate the event structure of Zulu within the theories of Smith (1997) and of Pustejovsky (1996). The theory of Smith distinguishes between viewpoints and situation type and her theory is thus a two component theory which includes viewpoint and situation type (Smith, 1997:3). Viewpoint aspect will be dealt with in chapter 4, i.e. those aspects which include i.a. the perfective and imperfective viewpoint aspect. This chapter will only focus on the situation type of a sentence which classifies the event or state according to its temporal properties. The section on event structure of Pustejovsky will be based on his theory of lexical semantics which is known as the Generative lexicon (Pustejovsky, 1996). Such a structure refers to the definition of the event type of a lexical item and a phrase. Sorts include state, process and transition and events may have sub-eventual structure.

An overview of various theories on events and states will firstly be considered below :

#### **2.2 OVERVIEW ON EVENTS AND STATES**

##### **2.2.1 Verkuyl (1993)**

According to Verkuyl (1993:33) Vendler kept his analysis of the aspect in the lexical level not at a structural one. He classified the aspect in quadripartition. His classification relates to linguistic work in aspect and he implied in his work that each of his lexical classes can be used in the theory of aspectuality.

Verkuyl is of the opinion that Vendler's proposal did not distinguish between the following criteria : one based on agentivity and one on purely temporal properties of situations such as boundness, uniqueness etc. Vendler's quadripartition do not say much about aspect construal.



Verkuyl divides his work into the following sections, section 1.1-1.4 analysis of Vendler's proposal showing that it is based on a cross-classification involving two parameters, section 1.5-1.9 proposal based on Vendler and Kenny examining their use of aspectual classes explanatorily.

### 1.1 Vendler's time schemata

Vendler's verb classes are characterized by using the following "time schemata" as quoted by Verkuyl (1993:34).

STATE : A loved somebody from  $t_1$  to  $t_2$  means that at any instant between  $t_1$  and  $t_2$  A loved that person.

ACTIVITY : A was running at time  $t$  means that time instant  $t$  is on a time stretch throughout which A was running.

ACCOMPLISHMENT : A was drawing a circle at  $t$  means that  $t$  is on the time stretch in which A drew that circle.

ACHIEVEMENT : A won a race between  $t_1$  and  $t_2$  means that the time instant at which A won the race is between  $t_1$  and  $t_2$ .

The terms instant and stretch are underlined to mark one of the two crucial parameters involved and the (in)definiteness of the temporal unit as expressed by any, a and the in (1).

Vendler's classes can be derived from the following underlying parameters featuring [ $\pm$  Process] and [ $\pm$  Definite] in the following manner :

**Table 1**

	-Process	+Process
-Definite	State	Activity
+Definite	Achievement	Accomplishment

The vertical division in table 1 is called the Continuous Tense Criteria (CTC) and the horizontal division is named as Definiteness Criteria (DC). They are described as follows :

## 1.2 Continuous Tense Criteria

These criteria involve the opposition between continuous and non-continuous tense. The important one is Prog –F. Prog-F is found in Accomplishment verbs and Activity verbs, it is not found with state and achievement verbs as in (2).

- (2) a. \*I am knowing, she is loving him (States)  
 b. He was running, she is swimming (Activities)  
 c. She is running a mile, he is drawing a circle (Accomplishment)  
 d. \*She was recognizing him, he was reaching the top (Achievement).

Table 2 shows that the concept of agentivity and the use of Progressive Form are not tied up; also the use of Progressive Form which is not essentially tied up with the criterion of Progress in time, is closely related to temporality.

**Table 2**

	Agentive	Process
He is running	+	+
He is ignoring me	+	-
Prices are increasing	-	+
Small things are mattering	-	-

Vendler have States and Achievements in one category in order to distinguish Achievement from Accomplishment. Verkuyl doubts this combination of States and Achievement forming a natural class.



### 1.3 Definiteness Criteria

Verkuyl reviews Vendler's arguments for a horizontal division on the basis of Definiteness features as follows : The characterization in (1) of Accomplishment and Achievement should be set apart from Activities and States. He is of the opinion that Vendler's division is restricted only to the opposition between Accomplishment and Activities. Vendler has a shallow explanation on the difference between Achievements and States and that complicates the picture a great deal.

He cites the difference between Activities and Accomplishments by two different sorts of linguistic criteria :

- (A) those based on co-occurrence called FIT-criteria
- (B) those based on entailment.

#### A. FIT-CRITERIA

This type of criteria is about some restriction on co-occurrence of verbs with certain adverbials or verbs as symbolized in the following manner.

F-for-adverbials, I-in-adverbials, T-verb

Example sentences are as follows :

- |     |                                              |   |
|-----|----------------------------------------------|---|
| (3) | He ran for half an hour                      | F |
| (4) | #He ran a mile for half an hour              |   |
| (5) | ?He ran in half an hour                      | I |
| (6) | He ran a mile in half an hour                |   |
| (7) | ?It took him half an hour to run             | T |
| (8) | It took him half and hour to draw the circle |   |

The F-criterion serves as a well-known litmus term in the study of aspectuality. It reveals the intuitive interpretation in a clear manner. The time expressed by the adverbial is incompatible with the concept of a unique definite event that is discernible by its bounds.

The I-criterion seem to have the same scope with F. Vendler presents it in a manner that is tied up to the concept of agentivity. Verkuyl is positive that one can use I-criterion without an agent.

The T-criterion is also attached with some form of agency and it excludes Achievement.

## B. ENTAILMENT-CRITERIA

Vendler presents the entailment-criteria with the following paragraph :

- a) If it is true that someone is running or pushing or cart now, then even if he stops in the next moment it will be still true that he did run or did push a cart. On the other hand, even if it is true that someone is drawing a circle or is running a mile now, if he stops in the next moment it may not be true that he did draw a circle or did run a mile. In other words, if someone stops running a mile, he did not run a mile, if one stops drawing a circle, he did not draw a circle. But the man who stops running, did run and who stops pushing the cart, did push it.

Dowty is of the opinion that if stop is replaced by an appropriate tense one can split Vendler's criteria into two as illustrated by the following example :

### **Homogeneity**

If V is an activity verb, the x V-ed for y time entails that at any time x V-ed was true. If V is an accomplishment verb, the x V-ed for y time does not entail that x V-ed was true during any time within y at all.

### **Imperfective**

If V is an activity verb, then x is (now) V-ing entails that x has V-ed. If V is an accomplishment verb, then x is (now) V-ing entails x has not (yet) V-ed.



Verkuyl sees Homogeneity as a criterion that says you can be sure to find the same sort of action at any part of the interval. Imperfective is a criterion that separates Activities from Performance : i.e. the union of Accomplishment and Achievement.

#### 1.4 On the alleged punctual nature of Achievements

Vendler used a criterion called by Verkuyl Present Perfect Now PPN to set Achievement apart from the other three classes. He observed that in the case of pure Achievement terms present tense is used as history present or immediate future as in the sentences below :

(10) Now he wins

(11) Now he has won

Verkuyl points out that the distinction between Accomplishment and Achievement is completely lexical. This is quite different from the other three categories.

With differences between Activities and Accomplishment, States vs Accomplishment and States vs Activities, it is the complement –NP and the verb which is involved, these will be illustrated with sentences (12), (13) and (14).

(12) <b>Activities</b>	<b>Accomplishments</b>
She ate sandwiches	She ate a sandwich
She wrote at the letter	She wrote a letter
She ate from the cheese	She ate the cheese

(13) <b>States</b>	<b>Accomplishment</b>
She ate no sandwiches	She ate a sandwich
She wrote to nobody	She wrote a letter

(14) <b>States</b>	<b>Activities</b>
She ate no sandwiches	She ate sandwiches
She wrote to nobody	She wrote to her mother

The opposition between Accomplishment and Achievements is lexical and cannot be produced as sentences (12-14).

Verkuyl is of the opinion that the validity of Vendler's criterion, dubbed Present Perfect Now is damaged by observational problems. There are no grounds for distinguishing Achievement terms from Accomplishment terms. Vendler's quadripartition seem to be relevant for philosophical purposes but not for the study of structural meaning involved in aspectual composition.

### **1.5 Mourelatos' merger of Vendler and Kenny**

Mourelatos as quoted by Verkuyl (1993:50) did three things:

- a. Vendler and Kenny's work was merged to one division of situational types.
- b. His classification was extended so as to be applicable both to agentive and non-agentive cases.
- c. He came up with useful term to be used in situational types corresponding with sentences.

Mourelatos focused on the Progress-parameter. He interprets Vendler's Definiteness-parameter in terms of an opposition ( $\pm$  Count) where (+Count) is similar to Vendler's [ $\pm$ Definite] but in which [-Count] applies only to [+Process]. Mourelatos seems to concentrate on the quantification over temporal entities meaning event can be counted, and that does not apply to processes which cannot be counted.

Mourelatos do not present any linguistic argument for the distinction between his four classes.



**Table 3 : Mourelatos' classification based on three valued parameters**

	occur (process)	count (definite)	punctual (momentary)
States	-	∅	∅
Activities	+	-	∅
Accomplishments	+	+	-
Achievements	+	+	+

### 1.6 Dowty's reductionist approach

According to Verkuyl (1993:51) Dowty's work is the reproduction of Vendler's criteria in a more linguistic way presented in a systematic and neat way. His proposal is presented as a reductionist analysis. The following types of verbs activity, accomplishment and achievement are constructed out of one or more Stative predicates and operators like BECOME and CAUSE : If  $V_n$  is an n-place predicate and  $a_1, \dots, a_n$  its arguments (s), the four classes are roughly represented as :

States	$V_n (a_1, \dots, a_n)$
Activities	Do ( $a_1, V_n (a_1, \dots, a_n)$ )
Accomplishments	Do ( $a_1, V_n (a_1, \dots, a_n)$ ) CAUSE BECOME ( $V_n (a_1, \dots, a_n)$ )
Achievements	BECOME ( $V_n (a_1, \dots, a_n)$ )

The above classification is represented in Table 4 constructed from three of the 'five partially cross-classifying semantic distinction' which serves as a base of Dowty's final scheme which he sees as a revision of Vendler's classification.

**Table 4 : Dowty's aspectual matrix is also based on a partial ordering**

	Process	Definite	Complex
States	-	∅	∅
Activities	+	-	∅
Accomplishments	+	+	+
Achievements	+	+	-

Definiteness features as a second parameter : a change can be indefinite or definite. According to Verkuyl Dowty's form  $Do(a_1, V(a_1, \dots, a_n))$  cannot be interpreted in a clear manner as to hold for definite changes. Dowty's definiteness parameter do not deviate from Vendler's.

The presence or absence of CAUSE together with BECOME is involved in the third division and that means that these two operators are required by Accomplishment to go together which accounts for the label [+Complex] to characterize this class, Achievements being Singular or [-Complex].

Although Verkuyl regards Dowty as one who has presented one of the most detailed and precise grammar of the English verbal system up to this point, he does not support Dowty's inclusion of the Vendler-classes in his grammar. He is of the opinion that its inclusion did not add much value in his explanation.

There are no places in which each of the classes is used to explain certain aspectual phenomena assuming a one-to-one relation between an aspectual class and a certain aspectual phenomenon that asks for an explanation.

## **1.7 Hoeksema's cross-classification**

Verkuyl (1993:55) describes Hoeksema's work as an attempt of interpreting Vendler's cross-classification illustrated in Table 1. Hoeksema uses different terminology to Vendler : [a Definiteness] is called [a Count] and [a Process] is called [a Duration]. His application of model-theoretical shows some big differences. He uses models containing a set  $w$  of so-called possibilities (actual and possible events). He defines four features where  $x_{cw}$  : -Count, +Count, -Duration and +Duration. He present them in the following manner with Table 5.



**Table 5**

	[- Duration]	[+ Duration]
[-Count]	$(XEX \& YEX) \Rightarrow xUyEX$	$(XEX \& yEX) \Rightarrow UyCX$
	$(XEX \& y_{\underline{c}x}) \Rightarrow yEX$	$XEX \Rightarrow \forall y (y_{\underline{c}x} \& x_{\underline{c}y})$
	States	Activities
[+Count]	$(XEX \& yEX) \Rightarrow XUyEX$	$(XEXYyEX) \Rightarrow xUyEX$
	$XEX \& y_{\underline{c}x}) \Rightarrow yEX$	$XCX \Rightarrow \forall y (y_{\underline{c}x} \& x_{\underline{c}y})$
	Achievements	Accomplishments

[-Count] – shows the property of monotone increase by being closed under finite union. [+Count] – do not allow the sum of X and Y to share an event they are in. [-Duration] – describes the property of monotone decrease. [+Duration] – shows the property of not being instant. This means that all members of X must have proper parts. All four properties of event type square are shown in Table 5.

The [-Duration] feature for States provides monotone decrease whilst [-Count] add the so-called property closure under finite union.

The interaction of the features [+Count] and [+Duration] raises problems to the Accomplishments [+Count] allows only for non-monotone structures [+Duration] presupposes monotonicity.

Also with Achievement [+Count] requires a non-monotone structure excluding any structure of the form XUy as a member of X. This means that the antecedent of [-Duration] is always vacuous presenting the consequent as always true : the condition  $y_{\underline{c}x}$  amount to saying  $XUy = X$ .

Verkuyl is of the opinion that one can account for empirical data without appealing to the cross-classification in Table 5. Through this classification a better understanding of the phenomena at issue is prevented because it suggest that the Vendler classes are of explanatory value. Some of the features from which they are constructed contribute to the appropriate generalization.

## 1.8 Carlson's extension

Carlson selects three parameters, he forms six aspectual classes from three parameters based on three pre-theoretically chosen grammatical criteria. Out of the six aspectual classes four are given on Vendlerian name. The three criteria are slightly adapted to circumvent expression from the game-theoretical framework in which Carlson works.

Criterion 1 : A sentence  $\emptyset$  is [+point] iff  $\emptyset$  has a truth value at moments.

Criterion 2 : A sentence  $\emptyset$  is [+extended] iff  $\emptyset$  has a truth value with respect to extended periods.

Criterion 3 : If  $\emptyset$  is [-continuous], then if  $\emptyset$  is true in periods  $P, P^1$  and  $P^{11}$ , and  $P^1 \neq P \neq P^{11}$ ,  $P \cup P^1 \cup P^{11}$  is a period only if  $P$  is a moment and  $P^1 = P^{11}$ .

Verkuyl does not analyse the six classes, he cites the point that most of the differences between them are lexical. Carlson's classification does not differ much from Mourelatos and Dowty's scheme.

## 1.9 Ter Meulen's Hierarchy

Ter Meulen characterizes the four Vendler-classes at the VP-level and interprets every VP as a set of subsets of  $P$  (IIVPIIC&(P)), where  $p$  is the set of processes  $p$  partially ordered by a strict precedence relation  $<$ . A process  $P_1$  is part of  $P_2$  ( $P_1 \leq P_2$ ) if  $P_1$  is located in the partial order on  $P$  within the bounds of  $P_2$  : a day is a part of a week : writing the letter  $p$  is part of writing the word part, etc.

She took Vendler-classes and stacked them in a relation that is inclusive beginning with States, each class is formed by having one more semantic property than its predecessor.

States are defined as monotone increasing. Activities are on par with structures having the same properties as (15).



$$(15) \quad QA = \{\{b\}, \{a,b\}, \{a,b,c\}, \{b,c,d\}, \{a,b,c,d\}\}$$

Activities are weaker than filters. There is an argument explaining why Activities are weaker than filters. Accomplishments do not meet requirements for filters. Achievement are filters and also ultra filters. Verkuyl view Ter Meuten's quadripartition as a highly suspicious one, the classes are not mutually exclusive. There is no difference between Achievement, Accomplishment, Activities and States. His classification is simply the model which is after the hierarch of generalized quantifiers.

Verkuyl has three arguments to show his objection to his classification :

- There is no evidence of linguistic argumentation for this division.
- The idea of a hierarch is implausible in view of the negation of non-States.
- There is no explanation revealed by the classification. Hence Ter Meulen offers an ontological rather than a linguistically relevant classification.

Secondly, Verkuyl objects to the negation of non-durative aspects which blurs the very distinction between terminative and durative aspect.

Positive sentences are terminative and their negative counterparts are durative. Verkuyl declares that if monotone increases is part of non-States, then negation of these three classes cannot result in monotone increase, these could be monotone decrease.

Finally Ter Meulen's proposal do not explain what is aspect. All four classes do not explain a linguistic phenomenon. Verkuyl concludes by saying that Ter Meulen's proposal fails to make clear why a Vendler-classification based on hierarchy is of interest for aspectual theory.

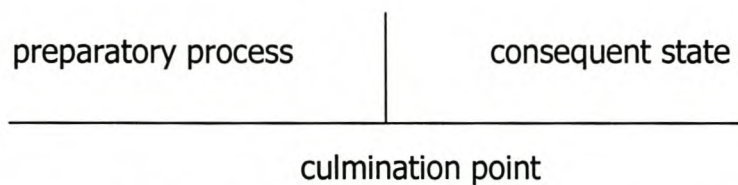
### **1.10 Moens' temporal ontology**

Moens distinguishes five classes and he incorporates Vendler-classes in his temporary ontology.

(16)	<u>Moens</u>	<u>Vendler</u>
	State	State
	Process	Activity
	Culminated Process	Accomplishment
	Point	-
	Culminated Point	Achievement

Moens aspectual classification is sentential or propositional, but not verbal. Verkuyl argues that Moens classifies the sentences without giving a clear explanation of how did he arrive at that conclusion. To Moens the five categories represent a perspective on how the world is structured by a particular choice of constituents. The PROG-operator only take Processes therefore a Process can only be made out of the CP. The CP focus on the end point, the PR when applied to a CP-proposition focus on the process part.

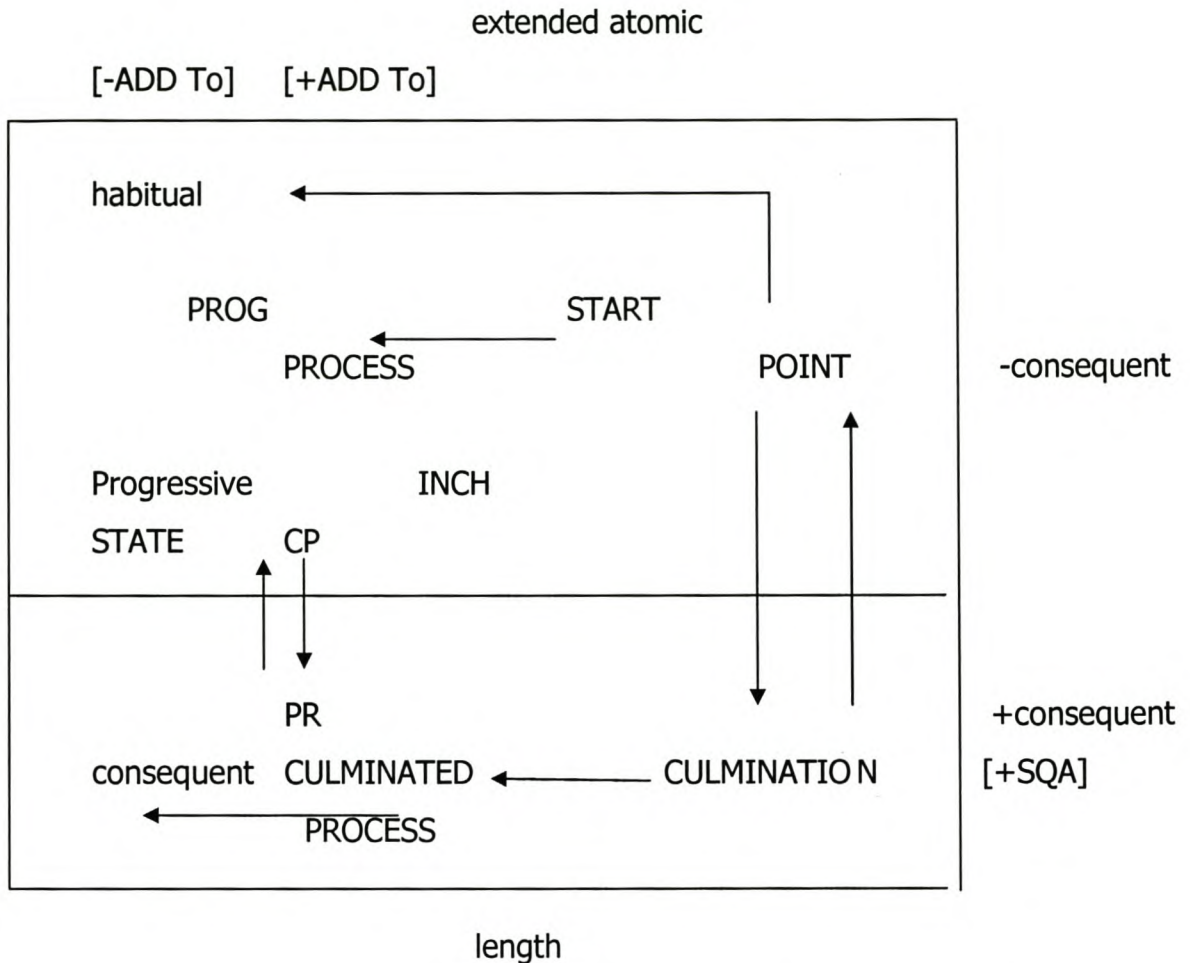
There is an underlying conviction that the structure of proposition is to be related to a so-called Nucleus which is an elementary event structure of the following form



This schema serves as a base of defining all propositions expressing temporal structure and all the operators changing membership of one of the classes.

Moens' aspectual network is illustrated with the following figure b. Verkuyl has added [+SQA] and [+ADD To] to it.





There are three classes : States, Processes and Culminated Processes (=Events). According to Moens the latter two are extended intervals and there are atomic counterparts to them. He distinguishes between Points (wink, tap, hiccough) and Culmination (recognise, spot, win the race).

Moens' system contains a lot of information useful for the scope of the aspectual theory. His scope is larger and contain higher level of analysis. With the study of inner aspect Moens' system has a macroscopic features. He has no answer for micro-phenomena. Moens have some answers for some present study phenomena and for other phenomena answers fall outside the scope of the present study.

### 1.11 Conclusion

Verkuyl says firstly most scholars discussed here focused on aspectual classes rather than on aspectual parameters. Dowty evades for some time the explanation of the essence of the aspectual theory in terms of his parameter. Hoeksema does introduce them for a short while and turns to Vendler-classes which he does not use too. Carlson gives some attention to the aspectual classes. He tries to explain his view on aspectual phenomenon and interprets their model theoretically. Secondly none of the parameters is systematically related to constituents of natural language except for the verb. Parameters are all related to the verb itself implicitly or explicitly. It gives a philosophical bias rather than a linguistic point of view. That can be interpreted in speaking about ontological categories rather than linguistic categories. Thirdly in one way or another all parameters involved are temporal ones. This is unnatural in aspectual composition in which a temporal entities are involved.

### 2.2.2 RITTER AND THOMAS ROSEN (1993)

Linguists are interested in conditions under which verbs allow alternations in transitivity. There are several questions which need to be answered. Firstly the level of representation at which the so-called causative alternation applies as illustrated in (1).

- (1) a. The window broke  
b. John broke the window

Secondly, why the transitivity of some so-called unergative predicates requires the addition of a goal phrase as illustrated in (2).

- (2) a. John walked  
b. \*John walked Bill / the letter.  
c. John walked to the dean's office  
d. John walked Bill / the letter to the dean's office.



Thirdly, why alternation in transitivity not possible in all cases? Some active verbs are always transitive but others are always intransitive. Consider these examples : (3) require an agent while the verb in (4) don't need one.

- (3)
- a. John destroyed the evidence
  - b. \*The evidence destroyed
  - c. John murdered his assistant
  - d. \*His assistant murdered.
- (4)
- a. John smiled
  - b. \*Mary smiled John (~ Mary made John smile)
  - c. John stank
  - d. \*Mary stank John (~ Mary made John stink)

Several linguists propose that it is through aspectual projections that the eventive or aspectual projections are realised in the syntax. According to Borer's explicit proposal syntax determines and assigns event roles. The syntactic events where event roles are assigned are delimited events (hence D-events). The representation of these events includes the delimiting FP and a direct object in the specifier of this F.P. It is through the syntactic representation that the event roles are determined and the event interpretation of a sentence is made.

### **Problems with Lexical Determinism**

The fundamental component of the event consists of the precise action or state denoted by the verb. Every factor involved in the event is considered. The syntactic representation of the event, not the lexical representation of the event, determines the interpretation of the argument.

## **Indefinite versus Definite Objects**

Considering the fact that other items in the predicates can contribute to the variable behaviour of predicate, the verb is not solely responsible for determining the event type or aspectual classification of the predicate. For example the mass nouns and bare plurals in direct object position or aspectual classification of the verb is illustrated in (5).

- (5) a. John ate a hamburger / the spaghetti in his bowl (\*for an hour / in an hour).  
b. John ate spaghetti / hamburgers (for an hour/ \*in an hour).

The choice of object brings the difference in these sentences.

## **Delimiting PPs, particles, and resultatives**

A non-delimited predicate can be delimited by a locational or goal oriented PP, verb particle or result phrase, for example goal phrase in (6).

- (6) Goal phrase  
a. John ran (for an hour / \*in an hour).  
b. John ran to the store (\*for an hour / in an hour).

Adding the goal phrase changed the event classification of the predicate.

## **Ability to Alternate**

This work focuses on the identification of those lexical semantic properties that define each alternation and it assumes that some set of semantic characteristics will form a group of a set of verbs that undergo a given alternation excluding those that do not. However, the alternability of a given verb is variable in many instances e.g. an intransitive verb may 'causativize' only if it is delimited.



## 'Variable Behaviour verbs'

The unergative or unaccusative verbs have an unstable membership which is not dependent upon the lexical entry of the verb. The lexical semantic content of the verb is fixed. Verbs behave syntactically like unergatives under certain conditions and like unaccusatives in other conditions.

## Arguments can determine events and alternations

It is the argument rather than the verb itself that determines whether or not a given verb can undergo a certain alternation. Lexically listed meaning of the verb cannot determine the syntactic realization on its own. Consider the examples in (7).

- (7)
- a. The window broke
  - b. John broke the window
  - c. My watch broke
  - d. She broke my watch
  - e. The storm broke
  - f. \*The gods broke the storm
  - g. The waves broke against the dock
  - h. \*The dock broke the waves

With the example in (7) break is used in three different ways and the event expressed constrains the choice of verb and not vice versa. The verb break does not determine the presence of the causer argument.

## Strong and weak predicates

Some verbs have a single highly specified meaning and an invariant argument array, others have a wide range of meanings and each is associated with different argument arrays. There are two types of verbs weak and strong lexical ones. Weak lexical verbs' semantic content is insufficient to provide a complete interpretation for the verbs or their

argument whilst the lexical representation of the strong lexical verbs is sufficient to determine the number and syntactic position of arguments as well as the semantic interpretation of both the verb and its argument. The event in which the verb is used determines the number and syntactic position of arguments of weak verbs.

The distinction between weak and strong correlates with various semantic event and syntactic properties. They are listed in (8) below.

(8)	STRONG	WEAK
interpretation	fixed	contextually determined
semantic selection	specified	unspecified
event classification	fixed	variable
adicity	fixed	variable
case properties	fixed	variable

### **Arguments without theta roles**

The fact that some verbs are unable to assign theta roles to their arguments contributes to the abandonment of the assumption that only lexical properties of the verb determine the number of arguments and their realization. Some verbs like have lack sufficient semantic content to determine the interpretation of that argument; they get their interpretation from other elements in the syntactic context, in two ways :

- (i) by coindexation with some DP in the predicate or
- (ii) by receiving a compositionally determined event role.

Verbs like have brings an extra participant into the event, i.e. the causes or instigator of the event.



## Verbalizing affixes

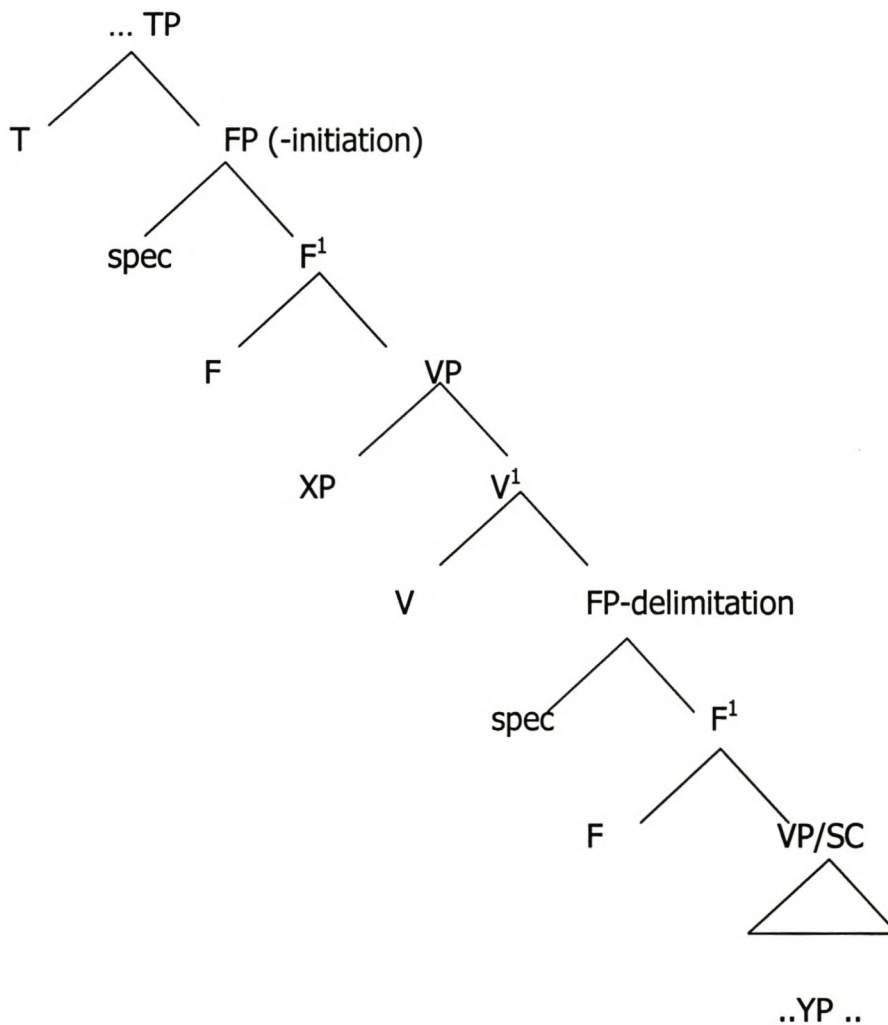
These verbalizing suffixes ify and ize cannot be specified thematically but serve in ensuring that the predicate containing the derived verb denotes a delimited event. This is illustrated in (9).

- (9) a. The chemist acidified the solution (in an hour / \*for an hour).  
 b. The carbon crystallized (in a day / \*for a day).

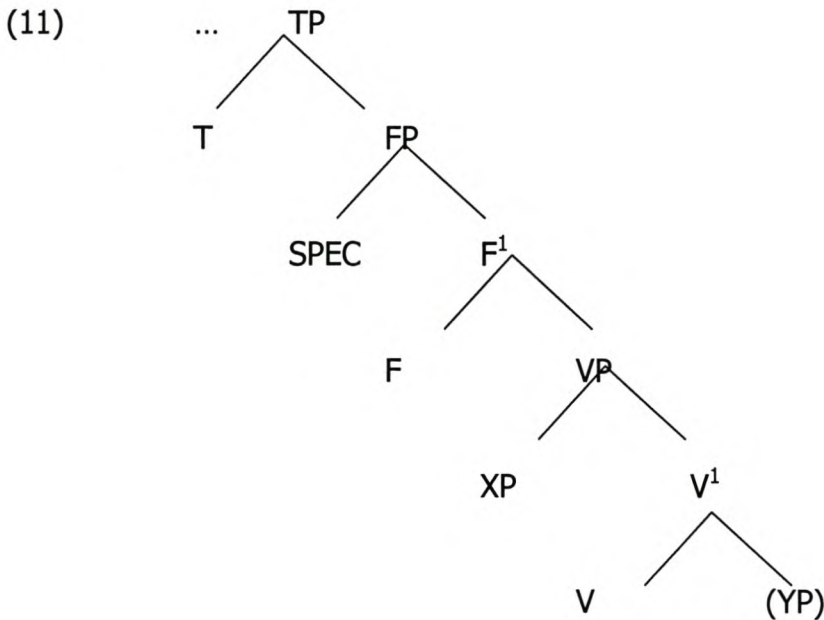
## Events and Event Structure

An event is structurally defined and encoded in the functional projections and delimitation is necessary for its projection. This is illustrated in (10).

(10)



The syntactically encoded events (D-events) must have a delimiter, realized in the FP immediately dominating the main predicate. The event type is determined by delimitation, external arguments do not contribute in determining the event type. Undelimited activities patterned with states do not have event structure. They have the syntactic structure represented in (11).



## Activity Verbs and Event Structure

### An Empirical Problem

Activities are characterized by being non stative ongoing in time and have no endpoint. They take external arguments and select objects. Adverbs, goal phrase time modifiers, small clause can be added to an activity.

When a goal phrase is added to activity, they behave like unaccusatives and thus are causativizable. Activity verbs behave in the following manner : those which lexicalize a manner are elastic in meaning, those lexicalizing a result are rigid. (12b) and (13b) illustrate the elasticity of meaning which can be lexicalized by activity verb :



- (12) a. John swept the floor clean  
 b. [[x ACT < SWEEP > Y][CAUSE BECOME [Y STATE]]]
- (13) a. John swept the crumbs up.  
 b. [[x ACT < SWEEP > Y] CAUSE [BECOME [z AT PLACE]]]

### **An Event Structure view of Elasticity**

Linguists argue that Arguments and predicates can be put into various syntactic structures and the syntactic structure determines the aspectual interpretation. The basic lexical representation of the main verb restricts the addition of a secondary predicate and does not involve augmentation of the representation to derive a new lexical entry. When a secondary resultative predicate is added in the syntax, the delimiting FP is also added in the syntax giving rise to a D-eventive interpretation of LF.

Although the activity verbs denote action they lack an event structure. They lack a delimiting object, thus there is no object and no delimiting FP hence the structure cannot denote a D-event. In order for a structure to be able in denoting a D-event a resultative secondary predicate must be added along with the FP extended projection of that predicate and the FP will be delimited. The presence of the delimiting FP in a sentence means there is an event structure in that sentence.

### **Result verbs and Causativization**

Result oriented verbs focus on the result of action, they denote a delimited action as in (14) and (15).

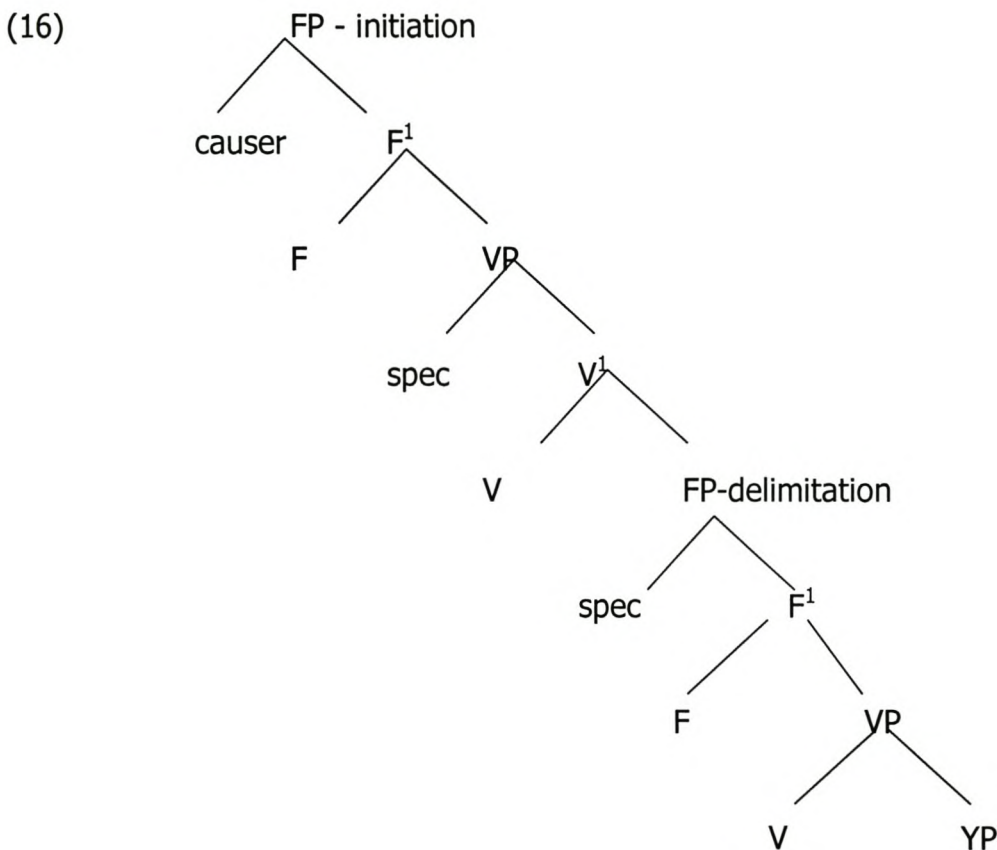
- (14) a. The glass broke in an instant / \*for an instant.  
 b. The chocolate melted in 10 minutes / \*for 10 minutes.  
 c. The shop sank in an hour / \*for an hour.
- (15) a. John built a house in 5 days / \*for 5 days.

- b. John drew a circle in 10 seconds / \*for 10 seconds.
- c. John painted a picture in a day / \*? for a day.

The result verbs both transitive and intransitive have an event structure. The structure of result verbs have the syntax of an event.

The structure of an unaccusative result verb allows the addition of an external argument.

The causativization of an unaccusative can be illustrated with the following structure :



### 2.2.3 RAPPAPORT HOVAV AND LEVIN (1993)

According to Rappaport and Levin (1993), the meaning of the verb is determined by its syntactic behaviour. Linking rules determine the realization of argument in syntax. Many verbs show various types of argument expressions. This can be illustrated below using the verb sweep :



- (1)
- a. Terry swept
  - b. Terry swept the floor
  - c. Terry swept the crumbs into the corner
  - d. Terry swept the leaves off the sidewalk
  - e. Terry swept the floor clean
  - f. Terry swept the leaves into a pile.

These variations bring forth the number of syntactic type of complements which can be taken by the verb, and the number of combinations these complements can take. For example the verb sweep may take a direct object as in (1b), the NP as a direct object only if followed by a PP complement as in (1c). This verb also shows properties of an activity as in (1a) and also shows properties of accomplishment as in (1c) – (1f).

A theory is needed to tell in advance the various argument expressions and meanings to be found in a particular verb, and a general principle can be formulated.

Several striking properties of variation suggest that verb meaning cannot vary in unlimited ways, there are linguistic principles governing the range of meanings associated with a verb. These variations are associated with the entire semantic classes of verbs. For example, the verb sweep behaves in a similar manner to verbs of surface contact through motion.

Different languages do not share the same range of meanings available to members of a particular verb class, however each language experiences semantic variation in verb meanings.

The documentation of variations that can be allowed and the constraints on such variations serve as a prerequisite in the development of an explanatory theory of possible variation in verb meaning. A case study of two verbs break and sweep will be presented and they represent the semantic class of verbs externally caused change of state and verbs of surface contact through motion respectively. They will be analysed in 4 sections.

## Manner versus Result Verbs

The verb sweep referred to as “manner verbs” specify lexically the manner in which the action denoted by the verb is carried out in contrast with the verb break referred to as “result verb” which lexicalize the result of the action denoted by the verb and that classifies the nature of their semantic distinction. Result verbs show a narrower range of variation in meaning and syntactic context than manner verbs.

The verb sweep depicts the manner of surface contact but does not entail the result of change in the contacted surface. The result verbs in contrast to manner verbs lexicalize a particular result reflected in two types – a resulting state or a resulting location. For example the verb break lexicalizes a particular achieved state but does not specify the causing activity. Secondly the verb such as arrive lexicalize an achieved location but not a manner of motion. For example when someone arrives at the station the verb does not indicate the manner of motion which could be running, driving or walking.

A presentation of various contrasting properties of the two verb types will show how the result verbs are much more constrained in their syntactic behaviour than the manner verb. Firstly with the two-argument verbs the manner verbs are ready to allow the omission of their direct object than the two argument result verbs. For example the verb sweep may appear without an object whilst break cannot as illustrated in (2).

- (2) a. Leslie swept  
b. \*Kelly broke.

Secondly manner verbs appear with a wide range of ‘non subcategorized’ objects whereas result verbs don’t as in (3) and (4).

- (3) a. Cinderella scrubbed her fingers to the bone.  
b. \*The clumsy child broke his knuckles to the bone.

- (4) a. The child rubbed the tiredness out of his eyes.  
b. \*The clumsy child broke the beauty out of the vase.



The manner verb *sweep* can show a range of uses such as change of location, change of state and creation, however the result verb such as *break* have its intended interpretation given in parentheses.

There is also a difference among verbs of motion, direct motion verbs do not behave as the verbs of manner of motion. Manner verbs are more flexible than the result verbs which are rigid.

### **The Monotonicity of Verb Meaning Construction**

This section focuses on the intuitive explanation for the distinctive behaviour of manner and result verbs. Manner verbs and result verbs differ in their lexical aspectual classification; manner verbs are activities whilst result verbs are either achievements (eg. arrive) or accomplishments (eg. transitive break). Although verbs with multiple meanings are associated with more than one lexical semantic representation, they still have a basic semantic classification and that lexical aspectual classifications are the basic classification of manner and result verbs. For example, the verb *sweep* has its basic classification as an activity verb although (1) illustrates that this verb *sweep* has a variety of uses that qualify as accomplishment and activities. The nature of the concept which the verb lexicalizes determines the basic classification of a verb.

There is an interrelationship between the various aspectual classes which was brought about by research on lexical aspect. For example accomplishments are generally assigned a complex event structure as illustrated in (5).

(5) [[X ACT] CAUSE [BECOME [y<STATE>]]]

(1) illustrates the possible variation in verb meaning and all involve the 'expansion' of an activity to yield various kinds of accomplishment. The verb *sweep* is basically an activity verb associated with extended meaning of resulting state such as change of location, change of state or the coming into existence of some artifact. The element in the syntax contributes to the addition of the resulting state.



## **Components of the Theory**

This section outlines the component of a theory which account for the possible meanings available to different types of verbs. This theory unites the understanding of the previous section that verbs have basic classification which can be extended in a monotonic fashion.

### **The Basic Element of verb meaning**

There is a distinction between two aspects of verb meaning termed 'structural' and 'idiosyncratic'. The structural part is relevant to determining the semantic classes of verbs that are grammatically relevant and the idiosyncratic part distinguishes that verb from other members of the same class.

The structural component of the verb meaning is regarded as grammatical relevant, it defines the grammatically-relevant semantic classes of verbs that share syntactically and morphologically salient properties. They define the various autological types of events and they correspond to the recognised Vendler-Dowty aspectual classes of verbs. The grammatical-relevant lexical semantic representation is often called an "event structure" whilst the idiosyncratic aspect of verb meaning serves in differentiating a verb from other verbs sharing the same structural aspect of meaning.

Verbs have a predicate decomposition made out of two major types of components primitive predicates and "constant".

The structural aspect of verb meaning is represented by specific combinations of primitive predicates and the idiosyncratic element of meaning is represented by the constants. When a constant associates with a particular lexical semantic template the result is the verb meaning.

Verbs with multiple meanings are associated with multiple lexical semantic representation. The association of a single constant with more than one lexical semantic template causes the multiple meanings.



Various combinations of primitive predicates are found in an inventory of lexical semantic template. They correspond to event types. Henceforth we refer to lexical semantic template as an 'event structure template'. The inventory of event structure are listed as follows :

[X ACT < MANNER >]	(activity)
[X < STATE>]	(state)
[BECOME [X< STATE>]]	(achievement)
[[X ACT < MANNER>]] CAUSE [BECOME [Y<STATE>]]]	(accomplishment)
[X CAUSE [BECOME [y<STATE>]]]	(accomplishment)

A set of event structure templates is fixed whilst the set of constants is open-ended. Each constant draws its ontological categorization from a fixed set of type (eg. state, thing, place, manner etc). There is a name associated to each constant (i.e. phonological string). The ontological type of a constant determines its basic association with a particular event structure template; these associations are specified by 'canonical realization rules'. Each constant determines the basic number of participants in the event it is associated with.

Constants may be integrated into event structure templates in two ways, they may be modifiers of predicate and they may serve as arguments of predicates filling a particular argument slot in a template.

The idea behind the canonical realization rules is that the minimal elements of meaning encoded in the constant must be given syntactic expression.

The pairing of a constant and an event structure template is called 'event structure'. This pairing is effected by the canonical realization rules to constitute a basic verb meaning. The constant contributes the 'name' associated with a particular verb meaning. A verb's lexical entry consist of the name contributed by the constant together with the meaning represented as an event structure. There should also be a matching up between the

participants associated with the constant in instances where a constant is associated with an event structure template by a canonical realization rule.

There are instances where the constant has more associated participants than there are variables in the corresponding event structure template and some participants are not paired with variable in the event structure template.

Verbs are associated with derived verb meanings and there are variations in verb meaning and this variation is attributed to Template Augmentation which allows more complex event structure templates to be built on simpler ones. Only meanings consistent with the basic inventory of lexical event structure templates can be created by Template Augmentation.

### **Well-formedness Conditions on Syntactic Realization**

There are two well formedness conditions on the syntactic realization of event structure. The first condition is :

- (6) Sub-event Identification Condition. Each sub event in the event structure must be identified by a lexical head (e.g. a V, an A or a P) in the syntax.

The second well-formed condition is described in two parts.

- (7) Augment Realization Condition
  - a) There must be an argument XP in the syntax for each structure participant in the event structure.
  - b) Each argument XP in the syntax must be associated with an identified sub-event in the event structure.



## The Representation and Derivation of Verbs with Multiple Meanings

### Simple Verb Meanings

Sweep is a manner verb which takes its name from a manner constant. The constant sweep is associated with an activity event structure template by canonical realization rule. Sweep has the basic event structure as illustrated in (8).

(8) [X ACT <SWEEP> Y]

The event structure of sweep can be associated with two argument expressions, consider (9):

- (9) a. Phil swept the floor  
b. Phil swept

The verb sweep can be used both transitively and intransitively.

In contrast to the manner verbs the externally caused verbs of change of state such as break require a direct object no matter what the context. Break is associated with a complex event structure with two sub-events, a causing activity and a change of state.

The verb break has the externally caused change of state and its event structure as in (10).

(10) [[X ACT <MANNER>] CAUSE [BECOME [y<BROKEN>]]]

This change of state being lexically specified by the constant does not provide any information about the causing sub-event beyond its existence hence it is a result verb, not a manner verb. A representation of the causing sub-event is included because the change of state break indicates that it did not occur spontaneously.

The difference found between the event structure of the verbs break and sweep brings forth a sharp contrast with respect to their direct objects.

### The Effects of Template Augmentation

Template Augmentation contributes to the derivation of the multiple meanings of a verb like sweep. Through Template Augmentation several possible meaning of the verb sweep can arise. Consider these example (11), (12) and (13).

(11) [X ACT < SWEEP>Y]

(12) [[ACT < SWEEP > Y] CAUSE [BECOME [Y<STATE>]]]

(13) [[X ACT<SWEEP>Y] CAUSE [BECOME [Z<PLACE>]]]

The event structure of (11) is of an activity and that of (12) is of an accomplishment. (13) express an achieved location, another kind of result. These sentences receive different aspectual classification.

The use of almost with the verb sweep shows different interpretation, the accomplishment use of sweep is ambiguous with almost as expected of an accomplishment while the activity use is not, as illustrated with (14a and b) respectively :

- (14) a. Phil almost swept the floor clean  
b. Phil almost swept the floor.

The interaction of Template Augmentation and the complex event structure template associated with externally caused state constants leads to the rigidity of externally caused change of state verbs with respect to argument expression. The template associated with verbs like break cannot be augmented further, no other achieved state or location can be added to a sentence with break, even with the normal direct object.

The verb break has different properties that distinguish them from the verb sweep which can be accounted for through the interaction of their event structure representation, the operation of Template Augmentation and the well-formedness conditions.



## **Other Consequences**

Achievements have a simple event structure which make it differ from the accomplishment that has a causing sub-event. The Template Augmentation cannot be applied to the basic event structure of achievement adding a causing sub-event and giving rise to an accomplishment event structure because there is no way to identify the added sub-event.

When achievement verbs do have causative counterparts, the causative verb has a different name as in the pair, come and bring.

Template Augmentation cannot be applied to the basic achievement verb because there is already an achieved state specified in the event structure of an achievement verb.

Verbs like break involve states that are conceptualized as being externally caused, they are basically associated with a complex event structure template which involves both a causing sub-event and a change of state sub-event.

The Template Augmentation which derives an achievement template from the state template through the addition of the predicate BECOME can lead to the internally caused change of state interpretation. The internally caused change of state verbs name states that come about naturally in an entity.

### **2.3 SITUATION ASPECT (SMITH 1997)**

#### **2.3.1 A brief outline of the theory of aspect**

Smith (1997) introduces her theory of aspect and elaborates on how it provides for a general and specific account of aspectual systems. Aspect is realised differently by different languages in the world. The theory of aspect must account for similarities and differences in aspectual systems and should allow precise statements of the system of particular languages. The two-component theory tries to do this, i.e. viewpoint and situation type.



Traditionally aspect referred to grammaticized viewpoint such as the perfective and imperfective. The term has now broadened, it includes temporal properties of a situation, or situation types sometimes referred to as event structure and "Aktionsart". This chapter will concentrate only on this latter component.

For Smith information about the temporal aspect of situations such as beginning, end, change of state and duration is conveyed by viewpoint and situation types. The notion of temporality is distinct and yet related to temporal location. Aspect is the semantic domain of the temporal structure of situations and their presentation.

With viewpoint aspect the temporal perspective is given to a sentence. More subtly situation aspect also involves point of view. Situation aspect presents a situation as belonging to a certain category of event or state. The two-component theory has the composite nature of aspectual meaning as its essential part. The aspectual meaning of a sentence is composed of the information from the components of viewpoint and situation type.

Smith is of the opinion that an account of the formal structure of aspectual systems and their substantive dimensions is provided by the theory of aspect at the level of universal grammar. Every individual language must have its aspectual systems stated individually. When the Universal grammar defines the basic categories it does it according to temporal properties which underdetermine a category allowing for the variations that occur among languages. Universal grammar also defines the principal situation types.

Smith points out that sentences present two types of information which are independent from each other i.e. the aspectual situation type and viewpoint. The aspectual information is illustrated with the following sentences.

- (1) a. Mary walked to school
- b. Mary was walking to school
- c. Mary walked in the park



(1a) presents a complete event that has a goal and it was reached. (1b) presents a part of the same type of event and does not indicate whether the goal was reached. (1c) presents a complete event which does not involve a goal, and the information that the event was terminated.

According to Smith the situation type is brought about by the verb constellation i.e. the main verb, its arguments including subject. Viewpoint is conveyed by a grammatical morpheme usually verbal. A situation with a particular perspective or focus is presented by the Aspectual viewpoint, and a situation with a full or partial view is given by the viewpoint. The event or state is indirectly classified by the situation type of a sentence according to its temporal properties. The situation type is divided into five according to Smith's classification.

## (2) Situation Types

### **States**

States reflect stable situations which hold for a moment or an interval. Their temporal features are [Static] [Durative]. Examples of statives are [own the farm] [be tall] [believe in ghost]. Even with the most temporary situation in statives the property of duration holds for example 'the temperature was ninety and rising'.

States require external agency for change because they have no dynamics. Both initial and final endpoints are not part of the state. They are on their own situation with changes of state. The temporal schema consist of undifferentiated period :

Temporal schema of states : (1) \_\_\_\_\_ (F).

The endpoints, given in parentheses do not form part of the state. States do not take fixed time. When a state holds, it is for every moment. Adverbials of simple duration and momentary adverbials agree with stative verb constellation as in (3) :

(3) a. The baby was asleep at noon

- b. The baby was asleep from 2 to 4 this afternoon
- c. Mary was sick for 3 days

Stative predicates may be differentiated into two types, one holding for individuals and the other for stages of individuals. Properties such as [be extinct] [be a beaver] are individual-level predicates. Predicates such as [be available] [be angry] are stage-level ones.

### **Activity**

Smith points out that with activities the physical or mental activities are consistent in the process. They are characterized by the features [Dynamic] [Atelic] [Durative]. Typical examples of Activities are [laugh] [eat tomatoes]. The temporal schema is as follows :

Temporal schema of Activities : I ..... F<sub>Arb</sub>

An Activity has a final point which is temporal bound both explicitly and implicitly. With activities the action stops, it does not finish : there is no notion of completion to the process event.

Smith cites the fact that activities consist of three main classes : firstly one class have processes that are unlimited in principle such as [sleep] [push a cart] [laugh], other class has indefinitely many internal stages e.g. [eat cherries], other are derived shifted activities.

Activities have the Atelic feature and it is compatible with forms of termination and incompatible with forms of completion.

### **Accomplishment**

Accomplishment is a result of a process and an outcome, or change of state. The change reflects the completion of the process. Accomplishments are limited bounded within. The temporal features of this situation type are [Dynamic] [Telic] [Durative]. Examples are



(build a bridge) (walk to school) (drink a glass of wine). These are successive stages within the Accomplishment. Through these successive stages the process advances to its natural final endpoint. A new state is formed.

The event becomes completed, when a process with a natural final endpoint reaches its outcome. The event cannot continue, for example if a person has driven to church and arrived the event is completed and he cannot continue. The notion of completion is essential : Accomplishments finish or are completed whereas Activities stop or terminate : The temporal schema of Accomplishment is :

Temporal Schema of Accomplishments : I ..... F<sub>Nat R</sub>

Smith says an accomplishment changes its state in various forms. The new state of affairs affect both the object and the subject, for example, object (cook a turkey) subject (miss the bus). There are different types of results and they are classified accordingly. These results contribute to the classification of the Telic events as in (4).

(4) Major types of results

Affected object : [bend an iron bar], [wrinkle a dress], [break a pot]

Constructed object : [build a house], [write a letter]

Consumed object : [destroy a house], [drink a glass of wine]

Affected experience : [amuse Mary]

Path-Goal : [walk to the lake], [work 2 to 3]

### **Semelfactive**

Smith states that semelfactive events occur very quickly and have no outcome or result other than the occurrence of the event. Examples are bodily events such as [blink] [cough] internal events : [high, flicker] actions such as [tap] [peck] [scratch]. They often occur in repetitive sequences which are termed multiple-event Activities. These multiple-event reading is triggered by an adverbial or other information as in 'Mary knocked for five minutes'. In some instances the multiple event is basic as a single-stage event. Events

such as knocking, blinking tend to occur in sequences, though they can happen as single events. Semelfactives will not be dealt with but will be included under activities.

## Achievements

Achievements are events that are instantaneous in nature and they result in change of state. Their properties are [Dynamic] [Telic] [Instantaneous]. Examples are [leave the house], [reach the top] [recognise Aunt Jane]. Although the preliminary or resultant stages are associated with the event, they are not considered as part of it. Its temporal schema is as follows :

Temporal Schema of Achievements : ..... E<sub>R</sub> ....

The dots in the temporal schema reflects the preliminary and resultant stages and they are included in the concept of Achievement for many languages.

Achievement is a concept that describes a single-state event and it is detached from any associated process. Hence it does not allow a whole-part entailment. The truth is expressed only for the moment of the event with an Achievement sentence. For example when Mary won the race, that will only be applicable at that moment not a moment earlier or later.

### (5) Major types of Results for Achievements

Affected object : [break a cup], [tear a paper]

Constructed object : [imagine a city], [define a parameter]

Consumed object : [explode a bomb]

Affected experience : [see a comet]

Path-goal : [reach the top], [arrive in Boston]

Smith points out that the situation types are distinguished by the temporal properties of dynamism, telicity and duration. These properties are termed semantic features. They have the features completion and detachability. Completion distinguishes telic from atelic events, detachability is found with Accomplishments but not with Achievements. The



positive values of the temporal features and their opposites will be discussed in their contrasting manner for example dynamic-static, duration-instantaneous and telic-atelic :

### **Static / Dynamic**

Static and dynamic is distinguished by the following features : states are static, have the simplest situation type consisting of a single undifferentiated period. They are obtained in time but they do not take time. Words like 'hold' or 'obtain' are used with states. Events are dynamic, they take place in time. They have successive stages which occur at different moments. Words like 'occurs', 'happens', 'takes place' are used with events.

### **Telic / Atelic**

Events may be described as telic or atelic. Telic events are identified by a change of state which constitute the outcome, or goal of the event. The event becomes complete when the goal has been reached and the change of state has occurred. The telic events may have no agent, but they have a natural final endpoint or intrinsic bound. Atelic events have no outcome, they are processes which can stop at any time. They have no final endpoint.

### **Durative / Instantaneous**

Situations are either durative or instantaneous. This notion of instantaneous is an ideal one. For example event such as [win the race] is not instantaneous, it will take several seconds to occur. Some scholars regard duration as a feature of situations which is not essential. Durativity simply refers to the fact that given situation lasts for a certain period of time. Instantaneous refers to situations that takes place momentarily.

Smith maintains that situation types can be presented either in a basic-level situation form or a derived-level one. Basic-level situation type presents the situation with the initial and final endpoint (not applicable to states). The general principles of basic level categorization present situations as complete and functional whole in a neutral manner. Derived-level situation types are complex, with an internal structure consisting of instances



of another situation type. The derived level requires adverbials or other information from context.

### 2.3.2 Basic-level and Derived-level situation type

Basically, each situation type consists of a simple, complete situation, simplicity in this context means that a single situation type is involved and completeness means that the situation is considered in its entirety. The situation is presented with its initial and final endpoints in the basic-level situation. The derived-level situation types are complex, with an internal structure consisting of instances of another situation type. Consider these sentences in Zulu :

- (6) a. Izingane **zisebenzile**  
(children worked)
- b. Izingane **zisebenze ihora**  
(children worked for an hour)
- c. Izingane **zisebenze ngehora**  
(children worked within an hour)

A basic-level categorization is presented by (6a) whilst a derived or shifted-level categorization is shown with (6b) and (6c) examples. In (6b) and (6c) the derived-level requires an adverbial or other information from the context. Temporal features such as for an hour and in an hour respectively are added and they cause the situation type to shift. As a result of the shift an accomplishment situation type is established. This evidence comes from different situations and differ only in the complements of the verb or the internal argument of the verb which involve derived-/shifted-level categorization.

### 2.3.3 Verb Constellation

According to Smith (1997) verb constellation is that instance where both the main verb and its arguments contribute to a situation type. A particular verb, noun phrases, prepositional verb and sentential complements of a verb constellation determines the



interpretation of situation type. When the composition or interpretation of the situation type of a verb constellation is made, the relevant values of its component forms is considered. Du Plessis and Visser (1995) cite the fact that the predicate argument structure of a verb indicates the number of arguments it take. With each argument one finds a specific variable corresponding to it, and such an argument may be labeled semantically with agent, theme, location etc. Different type of verbs may take a number of arguments as shown below :

One-place predicate

**Khala** : x (a variable)

agent (semantic label)

Two-place predicate

**dla** : x (y) (variables)

agent (theme) (semantic labels)

Three-place predicate

**beka** : x (y,z) (variables)

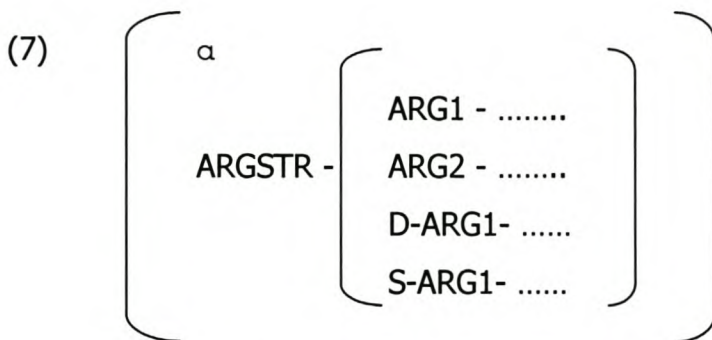
agent (theme, location) (semantic labels)

The semantic type system within lexical semantics, specifically within the theory of the Generative Lexicon, makes provision for four levels of representation. As indicated above one of these levels is represented by Event Structure. The other three levels are argument structure (which will be dealt with below), Qualia Structure and Lexial Inheritance Structure. Within the level of Argument Structure, four types of arguments for lexical items are recognised.

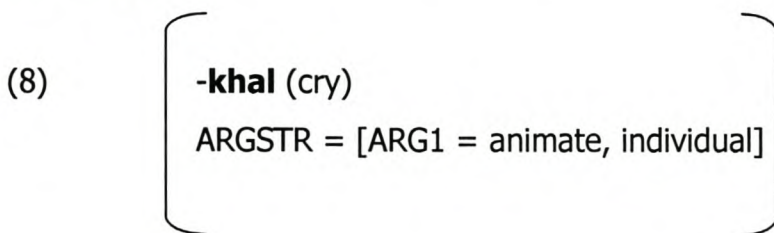
#### **2.3.4 True Arguments**

True arguments define those parameters which are necessarily expressed at syntax. This is the domain generally covered by  $\Theta$ -criterion and other surface conditions on argument structure.

The arguments for a lexical item e.g. ARG1, ARG2 ... ARGn are represented in a list structure. In this list the argument type is directly encoded in the argument structure – ARG STR, default argument D-ARG and shadow argument S-ARG like the structure below.

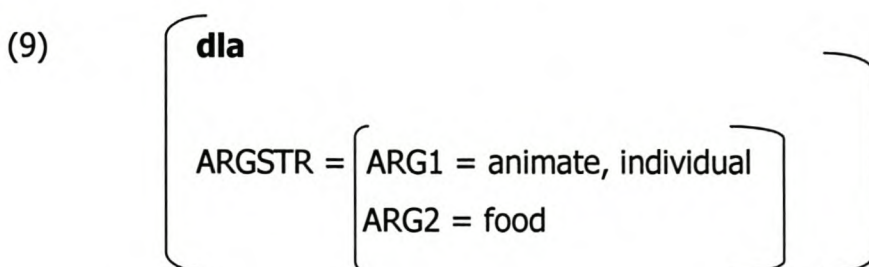


Lexical semantics for verbs can be represented with argument structure specification as below. Such argument may appear with certain features. Verbs may appear with one or more argument.



The lexical item **khal-** (cry) may be represented with argument structure above, the contents of the argument are drawn from the selection restrictions of the lexical item such as verbs. The verb **khal-** (cry) assigns one argument only and this argument has two features because only animate are able to cry.

Verbs with more arguments will have the following features :





The verb **dla** (eat) will need an animate being such as a person to do the action of eating and will also need something to be taken into the mouth.

### 2.3.5 Default Arguments

Default arguments are optional arguments in alternations such as the material/product pairs. They are necessary for the logical well-formedness of the sentence and they may be left unexpressed in the surface syntax.

They can be satisfied by full phrasal expressions of PP with **nga** or as a phrase incorporated into a true argument (descriptive possessive).

- (10) a. Izingane zibumba [**unodoli ngodaka**]  
children mould a doll with mud
- b. Izingane zibumba [**unodoli wodaka**]  
children mould a doll with mud

The material (**udaka**) is optional, its status as an argument is different from the created object (**unodoli**).

The argument structure of verbs with default arguments may be represented as follows with the verb **bumb** (build) as an example.

- (11)  $\left[ \begin{array}{l} \text{-bumb} \\ \text{ARGSTR} \end{array} \left[ \begin{array}{l} \text{ARG1 – animate, individual} \\ \text{ARG2 – artifact} \\ \text{D-ARG1 – material} \end{array} \right] \right]$

### 2.3.6 Shadow Arguments

Shadow arguments are semantically incorporated into the lexical item. The semantic content is not necessarily expressed in syntax. They are expressed only under specific conditions within the sentence, the expressed argument stand in a subtyping relation to the shadow argument. Consider these examples :

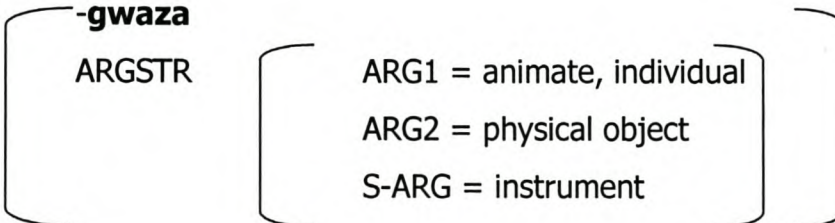
(12) Ngiye eThekwini [**ngemoto**]

I went to Durban by car

(13) Umgwaze [**ngentshumetshi**] edolweni

He stabbed him with a sharp instrument on the knee

This shadow argument may be represented as follows, for example with the verb **gwaza** as in (14).

(14) 

### 2.3.7 True Adjuncts

True adjuncts modify the logical expression and are part of the situational interpretation but are not tied to any particular semantic representation of the lexical item. They include expressions of temporal or spatial modification as (15) illustrates :

(15) a. Ngisebenza lapha [**unyaka wonke**]

(I work here for a year)



- b. Umoya uyavunguza [**entabeni**]  
(The wind is blowing on the mountain)
- d. Ingane ikhasa [**endlini**]  
(The child crawls in the house)

With sentences in (15) the adjuncts are within brackets and the verbs are modified by temporal expression or locative modifiers.

## 2.4 EVENTS AND STATES

The temporal properties of dynamism, telecity and duration will be used below to distinguish the basic situation types. These semantic features form three contrasting pairs which are expressed with plus and minus values.

### Temporal Features of the situation types

See Smith (1997:20)

Situations	Static	Durative	Telic
States	+	+	-
Activity	-	+	-
Accomplishment	-	+	+
Achievement	-	-	+

#### 2.4.1 Activities

With activities the physical or mental activities are consistent in the process. The aspectual class of activity verbs denote an activity of unspecified duration. They indicate a dynamic situation which is continually subject to a new input of energy which take place in time and which consist of successive stages which recur at different moments. An activity indicates a process in which things are happening or being done. Such activities refer to verbs that describe an action rather than a state. They are characterized by the features

dynamic, atelic, durative. The action stops, it does not finish hence there is no notion of completion.

The cumulative events of activities are seen as the part-whole relation in a sentence. For example if Zodwa walked in the park for some interval even the few minutes of the interval of his walking is also an instance of walking because activities terminate but do not finish. The notion of completion is irrelevant to a process event e.g. :

- (16) UZodwa **uhambe** izolo  
(Zodwa walked yesterday)

The activity of walking stopped at a certain final endpoint, i.e. yesterday.

Verbs may be classified into various verb classes according to their syntactic and semantic properties. In this section below some specific verb classes in Zulu will be investigated. These verb classes have been identified on specific aspects of their meaning, specifically whether they will satisfy the criteria, which have been mentioned above, i.e. activities are dynamic, durative and atelic.

### **Performance verbs**

Such verbs refer to activities in which a person does something or carries out a piece of work or a duty etc. The internal argument of these verbs may be bare plurals or it may include a singular noun in which case the sentence will be generic in nature, i.e. a kind-referring sentence. In (17c) we find a bare plural **amatshe** as an object argument while sentences such as (17a,d,e) etc. refer to generic sentences. In all these cases the activity is not completed, but it may stop and in that case there will be no outcome i.e. the activities are atelic.

- (17) a. Abafana **badlala** ibhola  
(The boys play football)



- b. UZodwa **uyacula**  
(Zodwa sings)
- c. Izingane **zikhaba** amatshe  
(The children kick stones)
- d. Abafundi **badansa** iramba  
(The learners dances ramba)
- e. Amabutho **asina** indlamu  
(The warriors dances a Zulu cultural dance)
- f. Amantombazane **ayabholoha**  
(The girls are dancing wedding songs)
- g. UNontobeko **ukhangisa** impahla  
(Nontobeko models clothes)
- h. OSozinyama **bavocavoca** umzimba  
(The body builders exercise their bodies)

### Cooking Verbs

Verbs of cooking may also refer to accomplishment if they describe the creation of a product such as bread in the process of baking. However, verbs of cooking may also describe different ways of cooking food and with this meaning they may refer to atelic events which does not result in completion i.e. a specific product which may be eaten.

- (18) a. Umama **uyapheka**  
(Mother cooks)
- b. UZodwa **uyathosa**  
(Zodwa fries)

- c. UThemba **uyabhaka**  
(Themba bakes)
- d. Ubaba **uyosa**  
(Father grills)

### Communication verbs

Communication verbs are mostly involved in interactions between various participants in which some information or opinion are made known, e.g. by speech or writing. When such an activity of communication stops, it may not result in a completed product, because activities only terminate and may not result in change.

- (19) a. UThoko **uhleba** ngoThandi  
(Thoko gossips about Thandi)
- b. Abafundi **bayakhuluma** ekilasini  
(The student talk in class)
- c. Osomahlaya **bayancokola** esekisini  
(The clowns jokes in the circus)
- d. Umama **uthethisa** ingane  
(The mother scolds the child)
- e. Unkosikazi **ukhononda** ngezimpahla ezibolile  
(The woman complains about rotten items)
- f. Umfundisi **wazisa** ibandla ngomshado kaThoko.  
(The preacher informs the congregation about Thoko's wedding)



- g. Umsakazi **ubika** ngombiko ophuthumayo.  
(The announcer relates about the urgent message)
- h. Umama **ufundela** izingane isiqephu.  
(Mother reads for the children a story)
- i. Umfundisi **ushumayela** izwi ebandleni  
(The pastor preaches the word of God to the congregation)

### Motion verbs

Motion verbs refer to an activity or process of moving in which one changes place or position. Such sentences with these verbs refer to situations which are durative, i.e. which may take some time, such as the following :

- (20) a. Iflegi **libhakuza** emoyeni  
(The flag flutters in the wind)
- b. Imoto **iyanyonyoba**  
(The car moves slowly)
- c. UThoko **uhamba** olwandle  
(Thoko walks on the beach)
- d. Izingane **zigijima** enkundleni  
(The children are running in the stadium)
- e. Ingane **iyakhasa**  
(The child is crawling)
- f. Isibankwa **sicaca** odongeni  
(The lizard creeps on the wall)

- g. Iziposhwa **zeqa** ejele  
(The convicts escapes from jail)

### **Weather verbs**

Weather verbs refer to the description of conditions of a particular area at a specific time with reference to sunshine, wind, rain, show etc. These conditions are dynamic because they take place in time. When any type of weather stops, there are no results which are achieved. A particular weather condition may stop at any time without resulting into a change, that kind of verbs are atelic. A certain kind of weather condition may be durative and last for a certain period.

- (21) a. Imvula **iyana**  
(The rain is raining)
- b. Umoya **uyavunguza**  
(The wind is blowing)
- c. Imvula **iyayidliva**  
(The rain is pouring)
- d. **Liyaduma**  
(It is thundering)

### **Remove verbs**

Remove verbs relate to taking away of an entity from a location. It might be a removal of an object form clothes, human beings, house or any place. The action of removing may take place for a certain period in time, and that means they are dynamic and durative. There are no definite outcomes which result in completion, such as the following :



- (22) a. Ugogo **ukhipha** ukudla ebhodweni  
(Grandmother removes food from the pot).
- b. Indoda **isusa** ukudla entshebeni  
(the man removes food from his beard)
- c. Umama **uphehla** ukhilimu obisini  
(Mother separates cream from milk)
- d. Abafana **bavungula** ameva ezinyaweni  
(The boys removes thorns from their feet)
- e. Umakhi **ubhoncula** izipikili emapulangweni  
(The builder removes nail from the plank)

### Wipe verbs

Wipe verbs relate to cleaning, removing or drying by cloth, paper or hands things from surfaces or containers. These events take place for some time hence they are dynamic. These events can stop at any time there are no outcome hence they are termed atelic. They may last for a certain period hence they are durative.

- (23) a. UNondumiso **usula** amanzi emafasiteleni  
(Nondumiso wipes water from the windows)
- b.UZodwa **ushanyela** izibi egcekeni  
(Zodwa sweeps dirt from the yard)
- c. Umakhi **uhwaya** upende odongeni  
(The builder scrapes paint from the wall)
- d. Intombazane **ichocho** inkwethu ekhanda  
(The girl scrapes dandruff from the head)

## Verbs of searching

Verbs of searching refers to examining or looking carefully for something. Searching verbs are dynamic because they take some time. There are no definite outcome because one might search without no results therefore they are atelic. One can search for an object for a shorter or longer period depending on the object being searched for hence they are durative.

- (24) a. Umkhulu **ucinga** izibuko zakhe  
(Grandfather is searching for his glasses)
- b. Umlimi **ufuna** amalahle  
(The farmer searches for coal)
- c. Ubaba **uhlola** ukhula ensimini  
(Father searches for weeds in the garden)

## Verbs of bodily care

Verbs of bodily care relate to taking care or grooming of the whole body. Such sentences with these verbs refer to situations which are durative, i.e. which may take time. They are atelic because when they stop there are no outcomes. They are also dynamic because they refer to situation that occur for some time.

- (25) a. UZozo **ugeza** umzimba  
(Zozo washes the body)
- b. UZethu **ukhumula** ingane  
(Zethu undresses the child)
- c. Izingane **zihlamba** amazinyo  
(The children washes the teeth)



- d. UNomsa **ugunda** izinwele  
(Nomsa shaves the hair)
- e. UThandi **ukama** izinwele  
(Thandi combs the hair)
- f. Umama **ugqokisa** ingane  
(Mother dresses the child)
- g. UMoyo **usheva** intshebe ngomshini  
(Moyo shaves hi beard with a machine)

With regard to these activity verbs from different verb classes one realise that they have temporal features such as dynamic, atelic and durative. They can stop at any time because they are not completed. They may stop at a short interval after the action has been occurring for a few minutes and that will reflect an instance of the whole process. These verbs have no outcome, they can stop at anytime because they have arbitrary final endpoints. Consider (17a) with the verb **dlala** (play) : the boys may decide to stop playing football after 10 minutes but such an activity reflects the part-whole situation : any part of the playing is of the same nature as the whole.

They are dynamic because they take place in time and they are continually subject to a new input of energy, thus they consist of successive stages which recur at different moments.

These verb are durative because they last for a certain period of time. Action like **futha** (blow), **sina** (dance), **bhuloha** (dancing) can last for quite some time.

## 2.4.2 Accomplishments

With accomplishments the event is completed successfully and it results in a change of state which reflects the completion of process. The event reaches its outcome or goal. When the event is completed, it cannot continue because a goal is reached. Accomplishments represent telic events.

- (26) a. UThoko **ugijime** umjaho weMarathon eThekwini  
(Thoko ran the marathon race in Durban)
- b. Abafundi **bacule** ingoma yesizwe eholo  
(The students sang the national anthem in the hall)
- c. Umakhenikha **ulungise** imoto isiyahamba  
(The mechanic fixed the car it is now moving)
- d. Umfana **ungene** endlini enkulu  
(The boy entered the big house)
- e. Amadoda **adle** inyama esibayeni  
(The man ate meat in the kraal)
- f. Ubaba **ushaye** ingane ngoswazi izolo  
(Father hits the child yesterday with a stick)
- g. Amaphoyisa **axoshe** izigebengu endaweni yakithi  
(The police chased the thugs in our area)

With sentences (26a-g) there is an additional information which suggest that the process has a logical culmination. The activity is over at a certain period as in (26c) : the fixing of the car is completed and another activity is now taking place, the car is moving.



There are verbs which within their meaning carries accomplishment in their transitive use as illustrated with the following examples :

- (27) a. Ingane **yachitha** amanzi endlini.  
(The child spilled water in the house)
- b. Umlilo **ushise** amahlathi.  
(The fire destroyed the forest)

With sentences in (27) these verbs seem to lexically denote accomplishment. They denote accomplishment events because there is a logical culmination to the activity performed. The non-existence of water and forest is the result of the use of these accomplishment verbs. When a process with a natural final endpoint reaches its outcome the event is completed and cannot continue. Thus the notion of completion is applicable. There are several verb classes which serves as examples of accomplishments :

### **Creation verbs**

Creation verbs relate to the art of causing something to exist, a creation of a product through a transformation of raw materials or an entity from one form to another. The creation verbs have a logical culmination to the activity performed. They are telic because they have a final endpoint. They indicate a process which lasts for a certain period thus they are durative.

- (28) a. Ugogo **ubumba** ukhamba  
(Grandmother moulds a calabash)
- b. Ubaba **udweba** isihlahla  
(Father draws a tree)
- c. Umama **uthunga** inhloko  
(Mother plaits her head)

- d. Umfundi **ubaza** itafula  
(The student carves a table)
  
- e. UZanele **waluka** ijezi  
(Zanele knits a jersey)
  
- f. Abafana **bakha** isibaya  
(The boys build a kraal)
  
- g. UZodwa **uthunga** ibhulukwe  
(Zodwa is sewing a trouser)
  
- h. Umculi **uqamba** iculo  
(The singer composes a song)
  
- i. Abafazi **babhaka** izinkwa  
(The women bakes bread)
  
- j. Imbongi **ibhala** inkondlo  
(The poet writes a poem)

### Verbs of ingesting

Verbs of ingesting relate to the taking in or swallowing of food. The action of swallowing the food reflects the completion of an event and that means the action has proceeded into its final endpoint. The action of taking in food is durative, it has a beginning and an end. That event takes time.

- (29) a. Umkhulu **udle** inyama  
(Grandfather ate meat)



- b. Amadoda **aphuze** utshwala  
(The man drank liquor)
- c. Ingane **ihlafune** uswidi  
(The child chew some sweets)

### 2.4.3 Derived activities and accomplishments

#### 2.4.3.1 Multiple-event activities

The internal stages of these activities consist of subevents. These activities are processes with independent explicitly stated bounds. They include events which consist of a series of events. They may be found with events of all types. They take durative adverbials.

- (30) a. **Ngihambe** amahora amathathu  
(I walked for three hours)
- b. **Ngihambe** ukusuka ngo-2 ukuya ngo-3  
(I walked from 2 to 3)
- c. **Ngihambe** usuku lonke  
(I walked for the whole day)

Temporally bounded processes as above are like telic events because they have specific finite endpoints and are found on the notion of completion. But they are also unlike telic events because there is no change of state.

These sub-events may have a series of events.

- (31) Uzodwa **udlisa** ingane ihora  
(Zodwa feeds the child for an hour)

In some instances these verbs are cyclic.

- (32) **-zungeza**\_ indlu ihora  
(go round the house for an hour)

One also find sub-events which are iterative or repetitive.

- (33) **-khohlela** ihora  
(cough for an hour)

### **Direction or goal**

Some sentences with activity verbs are changed into sentences that denote the notion of accomplishment verbs when an expression of direction or goal is added. When an additional information is added that indicates when the action stopped, i.e. the goal has been reached, that changes the activity sentence to denote accomplishment. The activity sentence can be modified by the inclusion of temporal adverbials such as for five minutes. The additional constraint that reflects where did the action terminate also assert that the process has a logical culmination without referring to the temporal duration of the activity. This type of activity sentence changes into an accomplishment one. Consider the following sentences :

- (34) a. UMuzi **uthwebule** izithombe ihora lonke  
(Muzi took photos for the whole hour)
- b. **Ngikhahlele** ibhola imizuzu emihlanu  
(I kicked the ball for five minutes)
- c. **Sicule** emcimbini wokuvula isikole imizuzu eyishumi  
(We sang at the opening of the school for ten minutes)
- d. Imbongi **ihaye** inkondlo imizuzu emithathu  
(The poet sang praises for three minutes)



- e. **Ngihambe** amakhilomitha amabili  
(I walked for two kilometres)
- f. Amabutho **asine** indlamu imizuzu eyishumi  
(The warriors danced a traditional dance for ten minutes)
- g. Abafana **badlale** ibhola imizuzu engamashumi amathathu  
(The boys played soccer for thirty minutes)
- h. UNonto **uhambele** ikhaya lakhe izolo  
(Nonto walked to her house yesterday)

### 2.4.3.2 Countable Arguments

Telic events are specific and countable. This property is partly expressed by the nominal argument of a telic sentence. When the argument is countable then the event is finite. A typically telic (or completive) event must include a count noun :

- (35) a. **Udle** inyama  
(He ate meat)
- b. **Udle** amaswidi amabili  
(He ate 2 sweets)

The presence of a bare plural object shift the interpretation of a typically telic event (an accomplishment) to an unbounded process :

- (36) a. UBongi **usenge** inkomo esibayeni  
(Bongi milked a cow in the kraal)
- b. UBongi **usenga** izinkomo esibayeni  
(Bongi milks cows in the kraal)

(36a) denotes an accomplishment while (36b) denotes an activity with a bare plural. There is a shift of meaning of **senga** from an accomplishment in (36a) to an activity as in (36b).

When such activities as in (36b) above appear with telic adverbials such as for an hour, they are again shifted to an interpretation of accomplishment.

(37) **-dansa** isichathamiya ihora elilodwa  
(dance cat dance in the hall for an hour)

### 2.4.3.3 Locatives

A count noun may change a telic event to become atelic when the argument which is a count noun is replaced by a locative.

(38) a. Accomplishment : **funda** incwadi  
(read a book)  
b. Activity : **funda** encwadini  
(read in a book)

(39) a. Accomplishment : **vula** isango  
(open the gate)  
b. Activity : **vula** esangweni  
(open at the gate)

(40) a. Accomplishment : **etha** imoto  
(pour the car petrol)  
b. Activity : **etha** emotweni  
(pour petrol in the car)

(41) a. Accomplishment : **shanyela** indlu  
(sweep the house)



- b. Activity : **Shanyela** endlini  
(sweep in the house)
- (42) a. Accomplishment : **chela** izimbali  
(water the flowers)
- b. Activity : **chela** ezimbalini  
(water at the flowers)

#### 2.4.4 Achievement

Achievements are events that are instantaneous in nature and they result in change of state. The change is not a gradual one but something that has a point-like quality to it. There is a point adverbial, modification of time indicating when the event took place denoting achievement. Their properties are dynamic, telic, instantaneous. With achievement the state changes very quickly, the focus is on the outcome of the events. The event is detached from any associated process.

Some example sentences to illustrate the achievement situations with different verb classes.

#### Break and bend verbs

##### (i) Break verbs

Break verbs refer to action that cause to come into two or more separate parts as the result of force. They are pure verbs of change of state that occurs instantaneously which refers to events that becomes complete at a certain point. They are telic because they have a final endpoint. Consider the following examples:

- (43) a. Izigebengu **ziphule** umnyango ekhishini  
(The thugs broke the door in the kitchen)

- b. Izingane **zipahlaze** ifasitela ngebhola  
(The children broke the window with the ball)
- c. Umama **uphohloze** amaqanda ekuseni  
(Mother broke eggs in the morning)
- d. Umlimi **usike** utshani emini  
(The farmer cuts grass during the day)
- e. Ubaba **ushayise** imoto izolo  
(Father broke the car yesterday)
- f. Ugandaganda **udilize** udonga ekuseni  
(The tractor demolished the wall in the morning)
- g. Inja **idabule** ilokwe ocingweni  
(The dog tore a dress on the fence)
- h. Ingane **iphule** izingilazi izolo  
(The child broke the glasses yesterday)

## (ii) Bend verbs

Bend verbs refer to an action that cause a straight line or neat surface or entity into a curve. They indicate a change in shape of an entity. They happen quickly in an instant hence they are instantaneous. After the bending has occurred then the action has been completed thus they are telic. They are dynamic because they take place in time.

- (43) i. UZodwa **ugoqe** indwangu yetafula  
(Zodwa folded the table cloth)



- j. UGela **ushwabanise** isiketi  
(Gela wrinkled the skirt)
- k. Uthishanhloko **ufonyoze** iphepha  
(The headmaster crumpled the paper)
- l. Umakhenikha **ugobe** ucingo  
(The mechanic bent the wire)

### Appoint Verbs

Appoint verbs refer to an action of choosing a person for a post or choosing members for a certain work or an entity for a particular work. This action is dynamic because it occurs in stages such as selecting and recommending, but the actual appointment occurs instantaneously. When an object or a person is selected then the goal is reached hence they are telic :

- (44) a. Imboni **iqashe** abasebenzi izolo  
(The farmer appointed workers yesterday)
- b. UThemba **ukhethe** imoto egalaji  
(Themba chose the car from the garage)
- c. Abafundi **baqoke** umphathi wabo namuhla  
(The students elected their leader today)

### Verbs of Disappearance

Verbs of disappearance refer to go out of sight or to vanish and not be seen any more. The action takes place quickly in an instantaneous manner. They are telic because the goal of disappearing is reached and a change of state occurs.

- (45) a. Utsotsi **ushone** ngo-2  
(The thug died at 2pm)
- b. Izilwane **zilahleke** ekuseni  
(The cattle disappeared in the morning)
- c. Igundane **litshobe** emgodini  
(The rat disappeared into the hole)
- d. Ilanga **lisithele** ngo-6  
(The sun set at 6pm)
- e. Ibhomu **liqhume** ebusuku  
(The bomb exploded during the night)

### Verbs of Appearance

Verbs of appearance relate to come into view, become visible or coming before the public. This action takes several seconds and does not last long before the goal is reached and has a natural final endpoint.

- (46) a. Ilanga **liphume** ngo-5  
(The sun rose at 5am)
- b. Ingane **iphaphame** ebusuku  
(The child awoken during the night)
- c. Imfene **ithushuke** ehlathini ekuseni  
(The monkey appeared from the forest in the morning)



## Motion Verbs

Motion verbs refer to the action of moving from one place to another. These events indicate that once a person has reached his destination at a particular moment, he has achieved his goal hence they are telic. Once a person or object has reached the destination the action stops.

- (47) a. Isitimela **sifike** ngo-10 eThekwini  
(The train arrived at 10pm in Durban)
- b. Ibhanoyi **lihlale** ngo-11 esikhumulweni  
(The airoplane landed at 11pm at the airport)
- c. Umkhumbi **usuke** ngo-4  
(The ship departed at 4pm)

## Verbs of Change of Possession

Verbs of change of possession refer to the change of ownership. When a transaction is made to indicate the change of ownership that occurs instantaneously and the action ends there. Therefore, those events are telic, they have a final endpoint.

- (48) a. Ichief **izuze** indebe ebholweni  
(Chief won a trophy from soccer)
- b. Amasela **atshontshe** izinkomo ebusuku  
(The thieves stole cattle during the night)
- c. Abashelwe izindlu **bathole** izingubo ekuseni  
(The fire victims received blankets in the morning)
- d. Ingane **izuze** imali emcintiswaneni  
(the child won money in the competition)

- e. Umlimi **uvune** izithelo izolo  
(The farmer picked fruit yesterday)
  
- f. Indoda **ihlabe** imbuzi ekuseni  
(The man slaughtered the goat in the morning)

#### 2.4.5 States

States are stable situations which are conceived of as existing rather than happening and as homogeneous, continuous and unchanging throughout its duration. The property of duration holds for statives, even the most temporary.

States consist of an undifferentiated period without internal structure. The initial and final endpoint of a state are not part of the state : they are distinct situations, constituting changes of state. States do not take fixed time. When a state holds, it holds for every moment. There is no moment throughout the event during which this state do not hold. Thus when a state holds for an interval, it holds for every sub-interval of that interval. Mary knows French every moment throughout the week the state holds.

With the aspectual type state two kinds can be distinguished, i.e. the individual-level and stage-level. Predicates such as **mfisha** (short), **mude** (tall) reflects the properties which are retained throughout a life time. They are classified under the individual-level. Predicates such as **lamba** (hungry), **vilapha** (lazy) and **khuthele** (active) reflects the changing state of individual and they are called stage-level predicate.

The adjectival or relative predicates are predicates that retains their properties throughout the lifetime and can be identified with the individual directly, they are individual-level predicates as shown in (49) and (50) below:



## (49) Adjective

- a. Ubaba **omdala** uyadla  
(The old man is eating)
- b. Indoda **emfushane** idlala esekisini  
(The short man plays in the circus)
- c. Umfana **omude** ngumgijimi  
(The tall boy is a runner)
- d. Intombazane **enhle** iphumelele emcintiswaneni wonobuhle  
(The beautiful girl won the beauty competition)

## (50) Nominal relative stems

- a. Ingane **eqotho** ikhuluma iqiniso  
(The honest child speaks the truth)
- b. Umfana **oqatha** ungu-sondonzima  
(the strong boy is a heavyweight boxer)
- c. Imali ithathwe umama **omhlophe**  
(The money was taken by the white lady)
- d. Umama **omnyama** uyapheka  
(the black lady is cooking)
- e. Abafana **ababuthakathaka** abalusi izinkomo  
(The weak boys do not look after the cattle)

## Verbs

### Conjecture Verbs

The conjecture verbs relate to putting forward of an opinion without facts or proof. They are stage-level states because this condition may hold for a certain duration and change. They can only be changed by an external agency :

- (51) a. UGela **uqagela** impendulo  
(Gela guesses the answer)
- b. Izingane **azazi** impendulo  
(The children do not know the answer)
- c. **Ngizwa** izigi  
(I feel the footsteps)
- d. **Ngimkhumbula** kancane  
(I recognise him hazily)

### Experience Verbs

Experience verbs relate to psychological verbs that refer to exclusively mental state. They are verbs that describes a situation which may last for a shorter period without changing throughout its duration. They are non-permanent, hence they are stage-level predicates.

- (52) a. Lo mfana **uyahlanya**  
(This boy is mad)
- b. Ugogo **uthanda** umzukulu  
(The grandmother loves her grandchild)



- c. UThoko **uyavilapha**  
(Thoko is lazy)
  
- d. Ingane **ithukuthele**  
(The child is sulking)
  
- e. Umfana omncane **ukhuthela**  
(The small boy is active)
  
- f. **Ngisaba** izigebengu  
(I fear thugs)
  
- g. UThoko **ujabule** ngoba uphumelele  
(Thoko is happy because she has succeeded)
  
- h. **Ngicabanga** ngomama  
(I am thinking about my mother)
  
- i. UThemba **uhleka** kakhulu  
(Themba is laughing loud)
  
- j. **Ngiyathokoza** ngoba ufikile  
(I am glad you are here)
  
- k. **Iyangicasula** insila  
(Dirt annoys me)
  
- l. Ubaba **uzonda** umsindo  
(Father hates noise)

## Verbs of existence

The state of existence relate to the existence of an entity at some location which may be a temporary one. They are stage-level verbs because the situation may change anytime but remain at that state while in existence.

- (53) a. Iziboshwa **zihlala** ejele  
(Convicts stay in jail)
- b. Abagibeli besitimela **balinda** esiteshini  
(Train passengers wait at the station)
- c. Abaphangi **bacasha** ebumnyameni  
(The thugs hide in the dark)

## Verbs of bodily position

Verbs of bodily position relate to state of being, the situation that affects the body. This state may last for a certain period unchanging while it last. They are stage-level predicates because they may change at any time.

- (54) a. Le ngane **izacile**  
(The child is thin)
- b. **Ngilambile**  
(I am hungry)
- c. Ngicela amanzi **ngomile**  
(I am asking for water I am thirsty)
- d. Umama **uyagula**  
(Mother is sick)



## Generic predicates

Generic predicates relate to an action common to a whole group of class. While it last it holds for that interval even the most temporary one. They are stage-level because they may change at any time:

- (55) a. Izinhlanzi **zitshuza** emanzini  
(Fish swim in the water)
- b. Izinyoni **zibhakuza** emafini  
(Birds fly in the sky)
- c. Abafundisi **bashumayela** ivangeli  
(Priests preaches the gospel)
- d. Amabhubesi **adla** inyama  
(Lions eat meat)
- e. Izingwenya **zihlala** emanzini  
(Crocodiles stay in water)

## Habitual predicates

Habitual predicates relate to what occurs regularly at certain intervals. They are not permanent they may change at any time. They are stage-level predicates because they do not have a fixed time but when they hold at a certain interval they hold for every moment.

- (56) a. Izingane **zicula zonke izinsuku**  
(The children sings everyday)

- b. Ubaba **uvamise ukuya edolobheni**  
(Father often goes to town)
  
- c. **Ngijwayele ukudlala ithenisi**  
(I frequently play tennis)
  
- d. Umfundisi **uthandaza njalo**  
(The preacher prays always)

### Verbs of Posture

Verbs of posture relate to the holding of the body in a certain position. This may last up to a certain period and holds for that interval. They are stage-level because they may change at a certain point.

- (57)
- a. Abafana **bahlezi** phansi  
(The boys are sitting down)
  
  - b. Izalukazi **ziphumule** otshanini  
(The old ladies are relaxing on the grass)
  
  - c. Abadansi **bagobile**  
(The dancers are bending)
  
  - d. Ingane **icambalele**  
(The child is lying down)

## 2.5 EVENT STRUCTURE (Pustejovsky 1991, 1996)

### 2.5.1 The Generative Lexicon

See Pustejovsk (1996) :



A generative lexicon is a computational system involving at least the following four levels of representation.

1. **ARGUMENT STRUCTURE** : Specification of number and type of logical arguments, and how they are realized syntactically.
2. **EVENT STRUCTURE** : Definition of the event type of a lexical item and a phrase, sorts include STATE, PROCESS, and TRANSITION, and events may have sub-eventual structure.
3. **QUALIA STRUCTURE** : Modes of explanation, composed of FORMAL, CONSTITUTIVE, TELIC, and AGENTIVE roles.
4. **LEXICAL INHERITANCE STRUCTURE** : Identification of how a lexical structure is related to other structures in the type lattice, and its contribution to the global organization of a lexicon.

A set of generative devices connects these four levels, providing for the compositional interpretation of words in context. Included in these generative operations are the following semantic transformations, all involving well-formedness conditions on type combinations :

- **TYPE COERCION** : where a lexical item or phrase is coerced to a semantic interpretation by a governing item in the phrase, without change of its syntactic type.
- **SELECTIVE BINDING** : where a lexical item or phrase operates specifically on the substructure of a phrase, without changing the overall type in the composition.
- **CO-COMPOSITION** : where multiple elements within a phrase behave as functors, generating new non-lexicalized senses for the words in composition. This also includes cases of under-specified semantic forms becoming contextually enriched, such as manner co-composition, feature transcription, and light verb specification.

According to Pustejovsky (1991) the importance of the structured lexical representation, event structure, predicates and their arguments and semantic representation in natural



language is stressed. The internal structure of events and the subevents is looked at. An attempt is made to show in broad outline the relevance of event structure to lexical semantics and linguistic theory in general. The basic assumption of the theory are as follows :

- (i) A more complex sub-eventual structure of event types and their embedded types are analysed.
- (ii) Analysis of the substructure of events clarifies the behaviour of adverbial modification in terms of scope assignment within the event structure.
- (iii) The semantic arguments within an event structure expression can be mapped onto argument structure in systematic and predictable ways.

### 2.5.2 Event Types

Pustejovsky (1991 and 1996) says temporal aspect can be viewed as the behaviour of sets of periods involving the concepts of initial, internal and final subperiods, as they relate to the semantic roles associated with the arguments of predicates. The same verb can be used for three different aspectual types : state, process and events, sometimes distinguishing between accomplishment and achievement events.

The aspectual class of the verb can change in a sentence when there is a prepositional or adverbial phrases or presence of bare plural as object, for example the verb walk is lexically process-like but can assume different meanings as in (58).

- (58) a. Mary walked  
b. Mary walked to the store  
c. Mary walked for 30 minutes

In (58a) walk denotes an activity of indefinite length, (58b) has an additional constraint that Mary terminated her activity of walking at the store, hence the process has a logical culmination or duration and the sentence denotes an event or accomplishment. With (58c) a durative adverbial is used to impose a temporal specification on the activity's



boundness. The presence of prepositional and adverbial phrases causes the aspectual class of sentence to change.

Accomplishment sentences may be modified by temporal adverbials such as in an hour. Consider this sentence :

(59) Mary walked to the store in an hour

Lexically verbs like build may seem to be an accomplishment, but may be used in a context where it appears to denote a process :

(60) Mary built houses for four years

Mary has been engaged in the activity of house building for a bounded period of time as in (60). The durative adverbial indicates that the sentence has been reinterpreted as a process due to the bare plural in object position, comments Pustejovsky.

Some verbs like performance verbs permit both activity usage and accomplishment usage whilst creation-verbs serves as best examples only of accomplishments.

Pustejovsky points out that achievement is an event that result in an instantaneous change of state and can be modified by point adverbials such at 3pm, noon etc. as reflected by the following sentences.

- (61) a. John died at 3pm  
b. John found his wallet at 3pm.  
c. Mary arrived at noon.

Accomplishment verbs may also be modified by point adverbials as in (62) :

- (62) a. She swam the channel at 10h00 a.m.  
b. The pianist performed the sonata at noon.

There can be a shift of a verb from activity to an accomplishment as with the verb eat. This could be the result of lexical properties of the verb being affected by factors which are not lexical as in (63a-b) :

- (63) a. Mary ate cookies (activity)  
 b. Mary ate a cookie (accomplishment)

Pustejovsky states that the presence of a bare plural objects or mass term shifts the interpretation of accomplishment to that of activity. Pluralization of the subject of achievement predicate also contributes to the aspectual shift when used with aspectual predicates such as begin and finish.

States may be modified by durative adverbials such as in (64) :

- (64) Mary was sick for two months.

Two kinds of stative predicates can be distinguished, i.e. the individual-level and the stage-level.

Pustejovsky points out that activities can be distinguished from accomplishment by the "imperfective paradox" test which involves the possible entailment from the progressive aspect as in (65).

- (65) a. John is running. Entails John has run.  
 b. John is building a house. Does not entail John has built a house.

With (65a) John has run is an activity but (65b) does not allow entailment because build culminates in a changed state.

Scalar adverbials such as almost affects the aspectual class of the verb and result in the verb having a different possible interpretation as in (66).



- (66) a. John almost swam.  
b. John almost painted a picture.  
c. John almost arrived.  
d. Johan almost left.

With (66a) John almost performed an activity of swimming but did not begin. (66b) has an interpretation similar to (66a) and also gives one the sense that John was already painting but did not complete the picture. (66c) is unambiguous while (66d) behaves exactly as (66b). One concludes by saying when the predicate is an accomplishment almost leads to ambiguity.

There are two distinct approaches to the study of word meaning : firstly the primitive-based theory which assume that word meaning can be exhaustively defined in terms of a fixed set of primitive elements and the word is decomposed. Secondly a relation-based theory which claims that there is no need for the decomposition of word meaning into primitives if words are associated through a network of explicitly defined links.

A proposal is made for a new way of viewing primitives which focus at the generative or compositional aspects of lexical semantics instead of the decomposition of words into a specified number of primitives. The method for lexical decomposition would tell us the minimal semantic behaviour of a lexical item, also the compositional properties of a word. Consider the example with the word closed.

- (67) a. The door is closed  
b. The door closed  
c. John closed the door.

Lexical (and conceptual) decomposition is possible if it is performed generatively. A fixed number of generative devices can be seen as constructing semantic expressions.

Following Pustejovsky the event structure interpretation includes the representation of both temporal precedence and exhaustive event inclusion. The predicate denotes the

essential opposition which forms part of what is termed the qualia structure of that lexical item and the qualia structure of a word specifies four aspects of its meaning :

- the relation between it and its constituent parts;
- that which distinguishes it within a larger domain;
- its purpose and function;
- whatever brings it about.

Any verb belong to one of the basic event type, states processes or transitions. Transitions are further distinguished into accomplishment and achievements.

According to Pustejovsky events play a great role in verbal semantics. He further states that finer-grained distinctions are necessary for event description in order to capture some of the phenomena associated with aspect and Aktionsarten. A means is needed for representing the subeventual structure associated with lexical items while expressing the necessary relation between events and the arguments of the verb. Pustejovsky designed a mechanism called Orthogonal Parameter Binding which allows binding of an argument structure and event structure. They can be represented as a listing of event variables :

[ARGSTR = ARG<sub>1</sub>, ARG<sub>2</sub>, ... , ARG<sub>n</sub>]

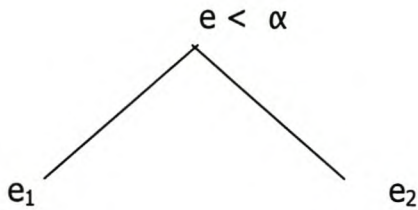
[EVENTSTR = EVENT<sub>1</sub>, EVENT<sub>2</sub>, ..., EVENT<sub>n</sub>]

The semantics of the verb is centrally defined by the qualia and constrained by type information from the two parameter lists. The predicates in the qualia refer directly to the parameter.

Event description needs some finer-grained distinction in order to capture some aspects of the aspectual (class). Events can be subclassified into three types, processes, states and transitions. They can be represented by structures. An event structure with structured subevent can be illustrated as follows :



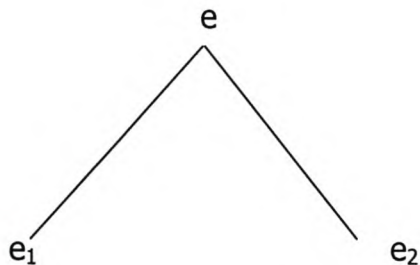
(68)



An event structure also represents structures other orderings because it is not restricted to representing strictly sequential relations between subevents.

The verbs accompany can serve as an example of the event structure that illustrates two subevents occurring simultaneously. This can be illustrated in terms of an event structure tree as follows :

(69)



This verb makes reference to an implicit event, it is aspectually under-specified and assumes both telic and atelic interpretation depending on the context.

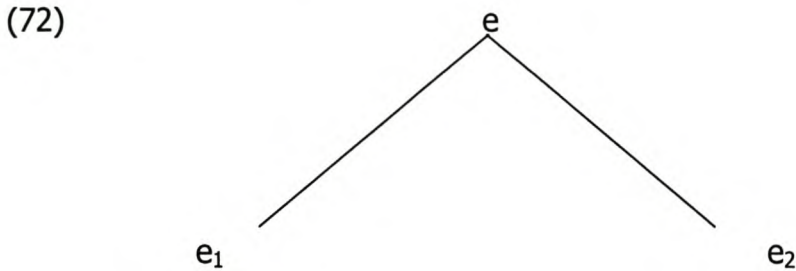
- (70) a. John will accompany you to the store (telic)  
 b. Mary accompanied me while I was walking (atelic)

Pustejovsky points out that in simultaneous subevents one starts before the other, called 'exhaustive ordered overlap';  $<_{o_\alpha}$ , when lexicalised can be defined as follows where init is a function over events returning the initial part of that event, and end is a function returning the final part of the event.

- (71) a.  $[e_3 e_1 <_{o_\alpha} e_2] = \text{def } <_{o_\alpha}(\{e_1, e_2\}, e_3)$   
 b.  $\forall e_1, e_2, e_3 [ <_{o_\alpha}(\{e_1, e_2\}, e_3) \leftrightarrow e_1 \leq e_3 \wedge e_2 \leq e_3 \wedge e_1 \text{ oe } e_2 \wedge$

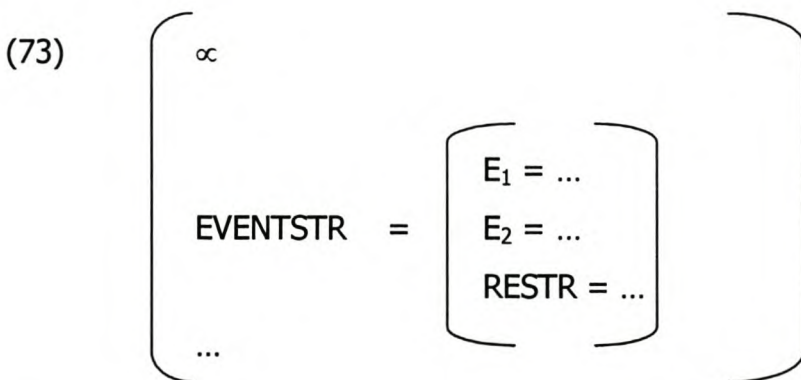
$$\text{init}(e_1) < \text{init}(e_2) \wedge \text{end}(e_1) = \text{end}(e_2) \wedge \forall e (e \leq e_3 \rightarrow e = e_1 \vee e = e_2)]$$

The relation  $<_{o_\infty}$  above defines an event containing two subevents,  $e_1$  and  $e_2$ , where  $e_1$  starts before  $e_2$ . The event structure tree is shown below :



The structure show the partial ordered relation which is a type of a causative relation that exists between the subevents but not in the same way as with the relation  $<_{\infty}$ . This subeventual structure involves verbs such as walk. This relation is also present with control interpretations for aspectual predicates such as begin with associated entailment regarding causation.

Considering the information given by Pustejovsky above, there are two sides of an event structure that need to be represented for a lexical structure, i.e. the specific event and their types; and the ordering restriction over these events. This is illustrated schematically in (73)



The verb build is used as an example : it involves a development process and a resulting state ordered by the relation 'exhaustive ordered part of',  $<_{\infty}$ .



Build constrain the types of its two subevents to PROCESS and STATE. However, the verb accompany permits either telic events TRANSITIONS or PROCESSES. The typing constraint however is similar to that for a coordinate structure in that they must be of like type :

$$(74) \quad \left[ \begin{array}{l} \text{accompany} \\ \text{EVENTSTR} = \end{array} \left[ \begin{array}{l} E_1 = T: \\ E_2 = T: \\ \text{RESTR} = O_\infty \end{array} \right] \right]$$

According to Pustejovsky, event information conveyed by a verb can be much richer than the 'sequence of events' structure encoded in the representation above. A property of headedness can be added to the event sorts and acts to distinguish the set of transitions and specifying what part of the matrix event is being focused by the lexical item in question and be represented as follows :

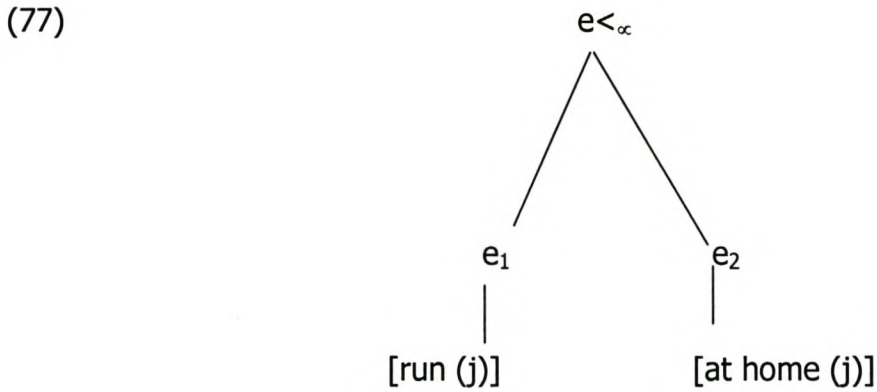
$$(75) \quad \left[ \begin{array}{l} \infty \\ \text{EVENTSTR} \end{array} \left[ \begin{array}{l} E_1 = \dots \\ E_2 = \dots \\ \text{RESTR} = \dots \\ \text{HEAD} = E_1 \end{array} \right] \right]$$

Events have at most a binary event structure and three temporal ordering relations realized in language ( $<_{\infty}$ ,  $o_{\infty}$  and  $o_{\infty}$ ). There are six possible head configurations with two events, given a single head; there are twelve possibilities, if unheaded and double headed constructions are included.

Heads allow certain types of modification. For example, the durative adverbials can modify the designated head of the event rather than the entire event structure as in (76) below :

- (76) a. John ran home for an hour  
 b. My terminal died for two days  
 c. Mary left town for two weeks

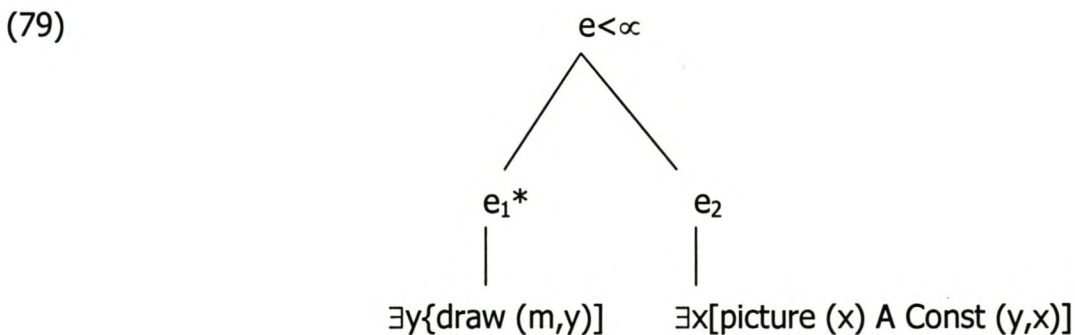
The event structure of (76) is illustrated in (77)



Left-headed events, e.g. TRANSITIONS can be modified by certain manner adverbs such as carelessly and quietly and the modification is over the initial (headed) subevent.

- (78) a. John built the house carelessly  
 b. Mary quietly drew a picture.

The event tree structure of (78) is illustrated in (79) :



### 2.5.3 Event Structure in Zulu

The event structure is one of the four levels in generative lexicon, event structure defines the event types of a lexical item and a phrase. Within the event structure of the



generative lexicon events are described as primitive entities and they fall into three broad classes : activities or processes, states and transition. Transitions are further distinguished into accomplishment and achievement. Events may have subeventual structure.

#### 2.5.4 Event Types

The event type, i.e. processes, states and transitions may be explained and structured in the following manner :

**State (S)** : a single event which is evaluated relative to no other event.

Examples : Ubaba **uyagula**  
(Father is sick)

Umama **ucasukile**  
(Mother is annoyed)

The event state describes the form the subject finds itself in. the meaning is embedded within the situation the subject is in, hence it is not related to other events. It is descriptive in nature :

Structural representation :

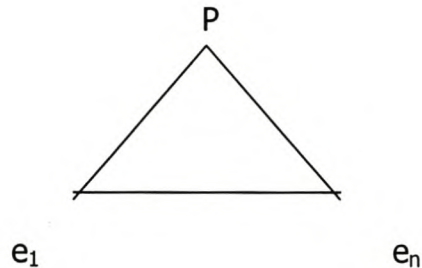
S  
|  
e

**Process (P)** : a sequence of events identifying the same semantic expression.

Examples : Ingane **igijima** egcekeni  
(The child runs in the yard)

Inja **ihudula** isikhumba  
(The dog drags leather)

Structural representation :



Following Dowty (1979) and others, we will assume that when  $P$  is a process verb, then if the semantic expression  $P^1$  identified with  $P$  is true at an interval  $I$ , then  $P$  is true for all subintervals of  $I$  larger than a moment. The activity involves the possible entailment for the progressive aspect.

**Transition (T)** : an event identifying a semantic expression which is evaluated relative to its opposition (Jackendoff, 1972; Lakoff, 1970; Wright, 1963).

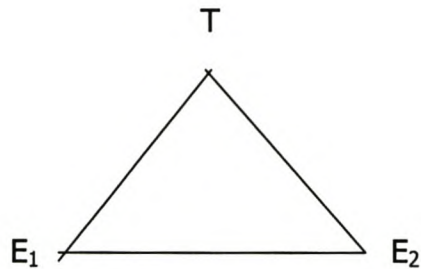
There is a logical culmination to the process. Reaching the outcome of the process a new state is formed. After the result or outcome the action cannot continue.

Examples : UJaba **uphule** ingilasi (achievement)  
(Jabu broke the glass)

UZobolo **wakha** indlu (accomplishment)  
(Zobolo built a house)

Structural representation (where  $E$  is a variable for an event type)



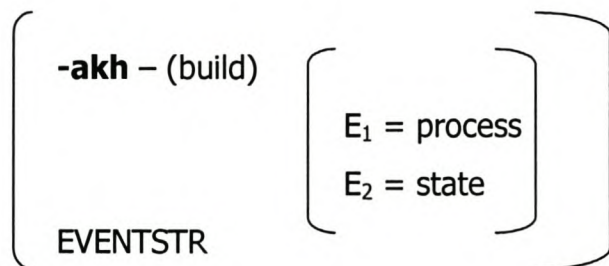


Pustejovsky (1996) mechanism Orthogonal Parameter binding allows us to bind an argument structure and event structure which can be represented as a listing of event variables :

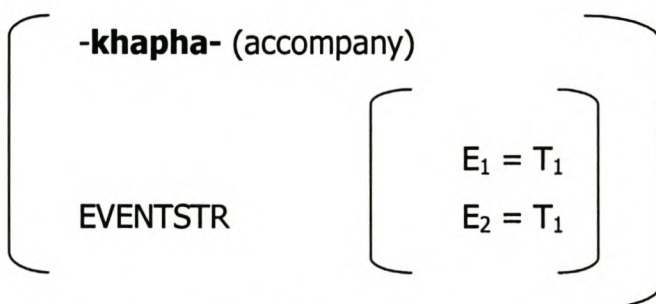
[ARGSTR = ARG<sub>1</sub>, ARG<sub>2</sub> ... ARG<sub>n</sub>]

[EVENTSTR = EVENT<sub>1</sub>, EVENT<sub>2</sub>, ..., EVENT<sub>n</sub>]

For example, the verb **akha** (build) is typically analyzed as involving a development process and a resulting state. (cf Dowty, 1979; Moens and Steedman, 1988; Pustejovsky, 1991b).



Unlike **akha** however, which constrains the types of its two subevents to PROCESS and STATE, the verb **khapha** permits either telic events, TRANSITIONS, or PROCESSES. The timing constraint is similar to that for a coordinate structure :



A verb like **cabanga** (think) will have one event :

[E<sub>1</sub> = process]

However, verbs such as **hlanganisa** (connect), **osa** (toast) may have two events :

[E<sub>1</sub> = process]

[E<sub>2</sub> = state]

Thus the process will change something into state, i.e. two things are now connected or toasted, thus referring to states.

### 2.5.5 Complex Semantic Objects

There are aspectual distinctions which need finer-grained descriptions of events, i.e. it is clear that events are themselves complex semantic object. According to Pustejovsky (1996) a motivation may be given for events as complex objects because it explains in what way different temporal modifiers make reference to different components of the event structure, e.g. the different interpretations with different types of adverbs as will be illustrated below :

To start with adverbs of manner such as **masisha** (quickly) can modify different events as in (80).

- (80) a. UJabu **ugijime** masisha.  
(Jabu ran quickly)
- b. UJabu **ufe** masisha  
(Jabu died quickly)
- c. UJabu **wakhe** indlu yakhe masisha  
(Jabu built his house quickly)
- d. \*UJabu **uhlale** eKapa masisha  
\*(Jabu lived in Cape Town quickly)



- With (a) above : the adverb **masisha** modifies the whole activity. The adverb shows the tempo in which the action was performed.
- With (b) and (c) above : events denoted by die and build are transitional, i.e. the process which led to Jabu's death or the house being built was quick. The scope of quickly requires a distinction between the internal composition of a transition from that of a process or state.
- With (d) above : the sentence is not acceptable in Zulu because quickly may not appear with events denoting states.

The locative may modify different events in the following manner as illustrated in (81).

- (81) a. Abafana badlala ibhola eGoli  
(The boys play soccer in Johannesburg)
- b. UThabo uyahlanya esibhedlela  
(Thabo is mad at the hospital)
- c. Umalume ufe ngo-8 eThekwini  
(Uncle died at 8 o'clock in Durban)
- d. Abafana bakhe izindlu eMlazi  
(The boys built houses at Umlazi)

The sentences in (81) do not lose their character as different event types with locatives. They only indicate the place where the event took place, it does not affect it.

A P P with **njenga** may appear in Zulu with different events :

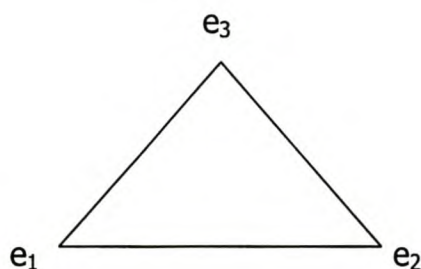
- (82) a. Le ngane ihamba **njengedada**  
(This child moves like a duck)

- b. UGugu uhlanya **njengomalume** wakhe  
(Gugu is mad like her uncle)
- c. UDlamini wakhe izindlu ezinhle **njengenkontileka** enkulu  
(Dlamini built beautiful houses like a big constructing company)
- d. \*Umama uphohloze amaqanda **njengengane**  
(Mother broke eggs like a child)

- With (a) above, the adverb njengedada modifies the activity as a whole. It signifies how the child walks.
- With (b) above, the event denoted by mad is inherent to both the subject uGugu and the uncle. The adverb shows that both the people are in a state of madness.
- The adverb in (c) modifies the accomplishment verb and reflect the standard obtained by Dlamini in the houses he built.
- With (d) the sentence is not acceptable this adverb does not give a clear meaning of the event.

Factors such as adverbial modification affects the semantic behaviour of a lexical item.

Events are thus composed of subevents and this issue leads to the defining of an extended event structure within the generative lexicon. This extended event structure can be represented with respect to three different types of relations between an event and its subevents. The relation between an event as a complex object and its subevents may be shown by the following diagram.





[e<sub>3</sub>] is the complex event with [e<sub>1</sub>, e<sub>2</sub>] as subevents. The three relations between these two subevents are the following.

### 2.5.5.1 Temporally ordered subevents

This restriction of the event structure may be indicated as follows : the event [e<sub>3</sub>] is a complex event structure with two subevents [e<sub>1</sub>, e<sub>2</sub>] where [e<sub>1</sub>] and [e<sub>2</sub>] are temporally ordered such that the first event [e<sub>1</sub>] precedes the second event [e<sub>2</sub>], while each is a logical part of [e<sub>3</sub>] and there is no other event that is part of [e<sub>3</sub>]. Examples of temporally ordered subevents are to be found in the following instances which will serve as examples.

- (83) a. UZodwa uphula izingilasi  
(Zodwa breaks the glasses)
- b. Ugogo uvusa izingane  
(Grandmother wakes up the children)

With (83a-b) the process of breaking and waking precedes the state of broken and woken state. The glasses are now in pieces but they have to be broken first. The subject acted first and caused the action. The children would have still been asleep, they arrived in the state of being woken up because of the action performed by their grandmother.

### 2.5.5.2 Simultaneous Subevents

The event [e<sub>3</sub>] may be composed of two completely simultaneous sub-events, e.g. with the verb **shada** (marry), **phekezela** (accompany). Because it makes reference to an implicit event, it is aspectually underspecified and assumes both telic and atelic interpretations, depending on the context.

- (84) a. UJabu uzophekezela uThandi [esitolo] (telic) (goal)  
(Jabu will accompany Thandi to the store)

- b. UThandi ungiphekezele [ngenkathi ngihamba] (atelic)  
(Thandi accompanied me while I was walking)

The phrase in brackets specifies the context.

### 2.5.5.3 Temporal overlap

The event  $[e_3]$  contains two subevents  $[e_1, e_2]$  where  $[e_1]$  starts before  $[e_2]$ , but there is a temporal overlapping relation between the subevents. Verbs such as **hamba** (walk) and **gijima** (run) are analyzed as involving this subeventual structure, where two motion processes are structured in an overlapping relation, i.e. the efficient motion of the legs bringing about the final motion of the body. The movement caused by the legs to be carried in different manner in walk which is slow and run being fast are embedded and part of the action of walking, they cannot be separated.

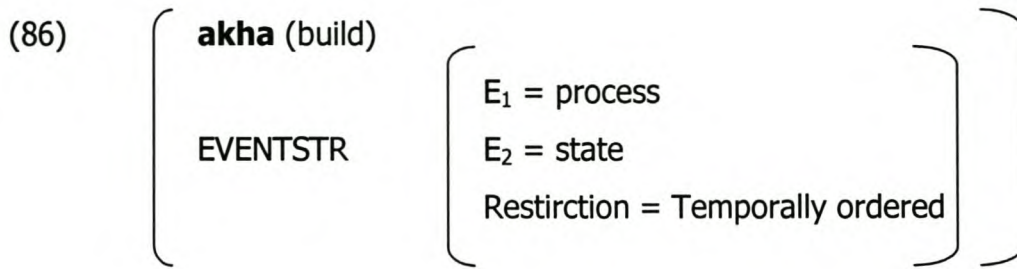
### 2.5.6 Ordering Restriction

The specific events and their types need to be specified, as well as the ordering restrictions over these events :

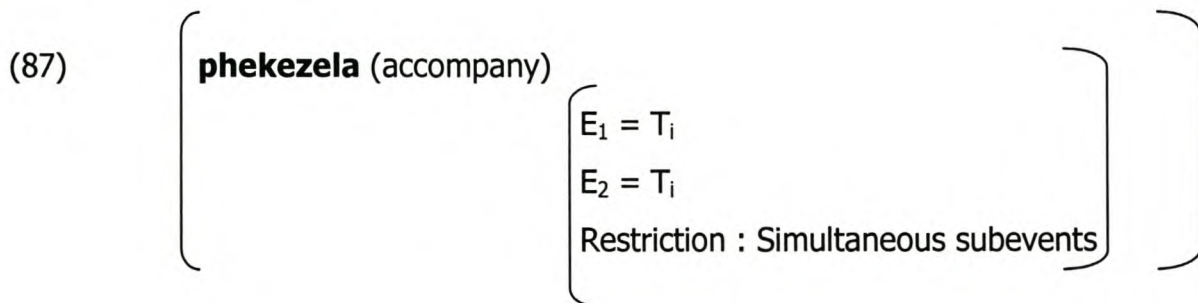
$$(85) \quad \left( \begin{array}{l} \text{EVENTSTR} = \\ E_1 = \dots \\ E_2 = \dots \\ \text{Restriction} = \end{array} \right)$$

The verb **akha** (build) includes the two subevents : a developing process and a resulting state. The ordering restriction between these two subevents is one of temporally ordered subevents.

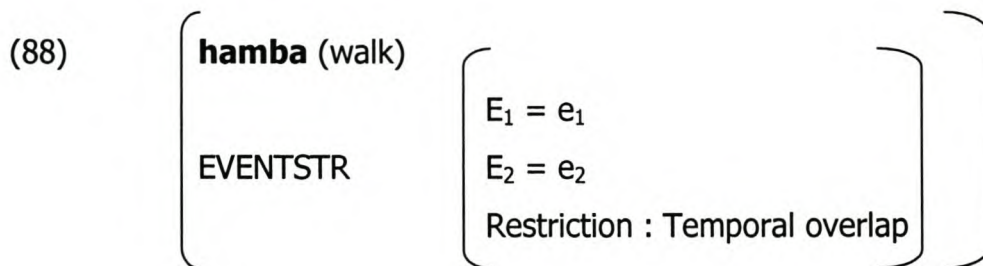




The verb **phekezela** (accompany) permits either telic events (transitions) or atelic events (processes). These subevents appear in a coordinate structure because they must be of like type :



The two subevents with temporal overlapping with verbs like **gijima** (run) or **hamba** (walk) may be represented as follows :



### 2.5.7 Headedness

The event structure can be further distinguished with respect to the importance of the subevents of a larger event, i.e. event headedness. According to Pustejovsky (1996:72) all event sorts have headedness as its property and that acts in distinguishing the set of transitions and specify what part of the event is being focussed by the lexical item in question. Event headedness provides a way of indicating a type of foregrounding and backgrounding of event arguments. Thus the head is defined as the most prominent sub-event in the event structure of a predicate which contributes to the focus of the interpretation.

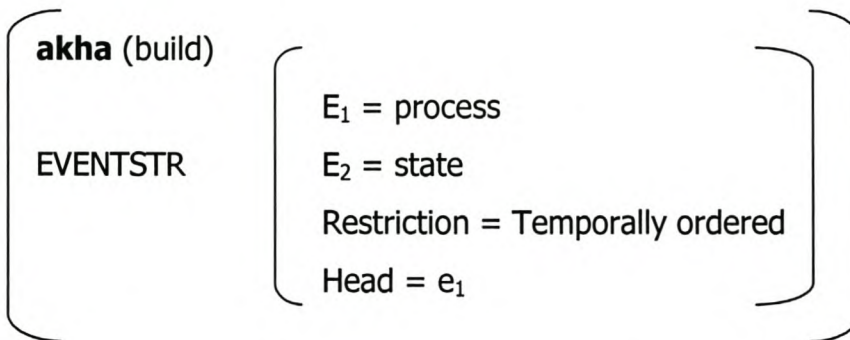
Pustejovsky (1996:73) assumes that events have mostly a binary event structure, and that there are three temporal ordering relations realized in language. Thus there are 6 possible head configurations with 2 events given a single head; there are 12 possibilities if unheaded and double headed constructions are included.

### Temporally ordered subevents

- a.  $e_1$  (head)  $e_2$  : accomplishments with creation verbs, e.g. **akha** (build)

Sakhe indlu

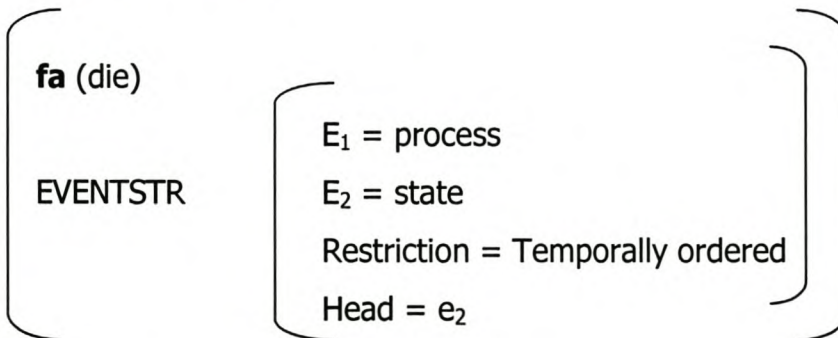
(We built a house)



- b.  $e_1e_2$  (head) : achievements with change of state, e.g. **fika** (arrive), **ifa** (die)

Ingane yami ifile

(My child is dead)

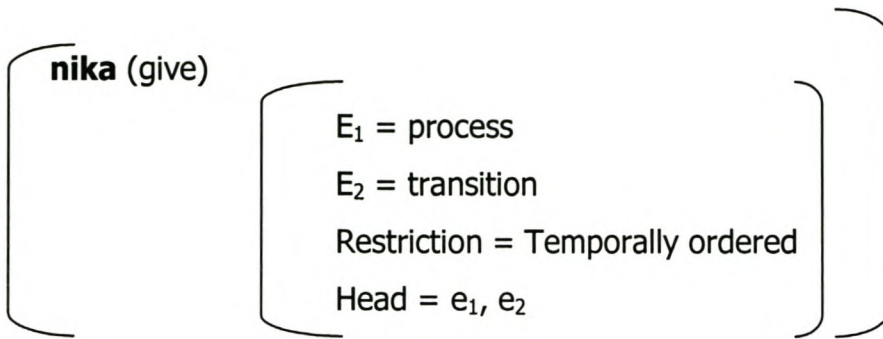


- c.  $e_1$  (head)  $e_2$  (head) : transitions with 3 arguments : the events involve a relational predicate on each sub-event : ditransitive verbs such as **nika** (give), **thatha** (take)

Ngizonika ingane ukudla

(I will give the child food)

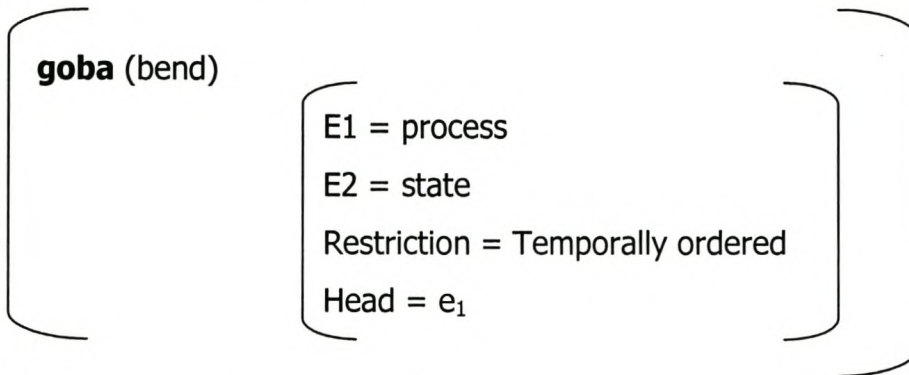




- d. e<sub>1</sub> e<sub>2</sub> (no head) : unheaded : polysemy : headless event structures admit of 2 possible interpretations : causative /unaccusative verbs such as **phula** (break) / **cwila** (sink) : when head is e<sub>1</sub> = transitive, when head is e<sub>2</sub> = intransitive.

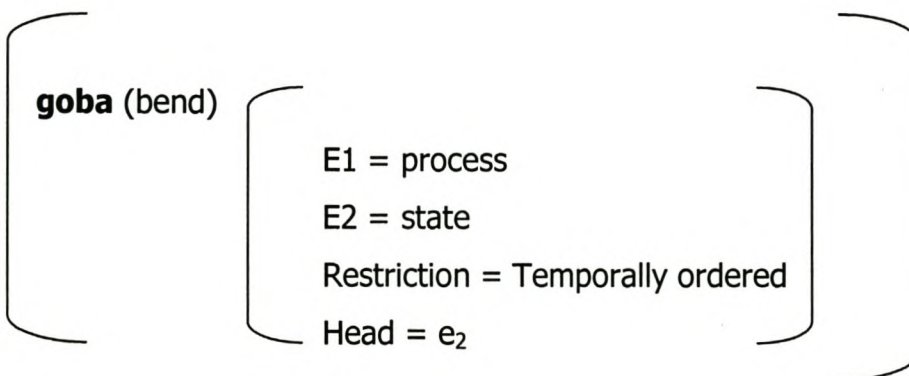
Transitive: Ngigobe ucingo

(I bent the wire)



Intransitive : Ucingo lugobile

(The wire has bent)



### Simultaneous Subevents

- a. e<sub>1</sub> (head) e<sub>2</sub> one only is focused by the lexical item such as **thenga** (buy)  
 Ngithenge amaswidi enkosikazini  
 (I bought sweets from the woman)

**thenga** (buy)

E1 = process  
E2 = transition  
Restriction = simultaneous  
Head =  $e_2$

- b.  $e_1 e_2$  (head (one only is focused of the 2 subevents by the lexical item such as **thengisa** (sell)

Ngithengise amaswidi ezinganeni  
(I sold sweets to the children)

**thenga** (buy)

E1 = process  
E2 = transition  
Restriction = Simultaneous  
Head =  $e_2$

- c.  $e_1$  (head)  $e_2$  (head) : **shada** (marry) **phekezela** (accompany)

Ngizokuphekezela edolobheni  
(I will accompany you to the town)

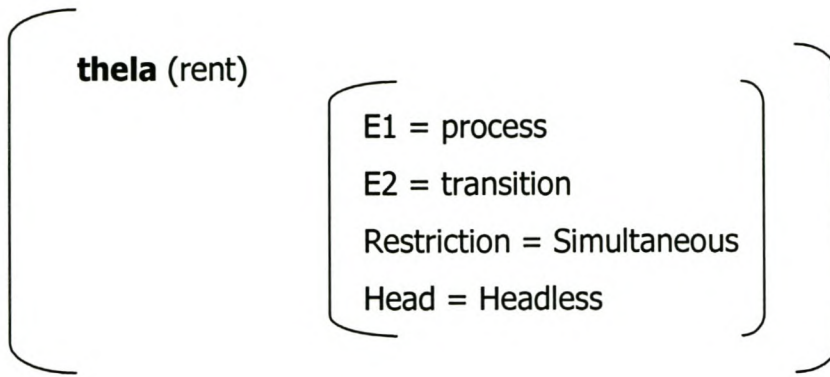
**phekezela** (accompany)

E1 = process  
E2 = transition  
Restriction = Simultaneous  
Head =  $e_1, e_2$

- d.  $e_1 e_2$  : headless : argument inversion predicates such as **thela** (rent)

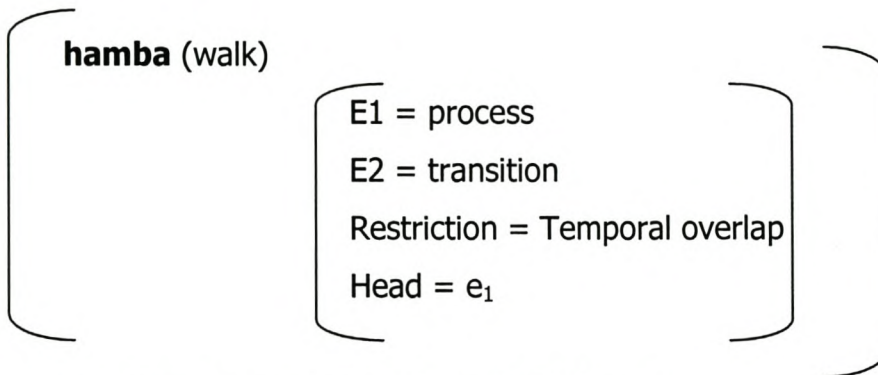
Sithela indlu kumniniyo  
(We rent a house from the owner)



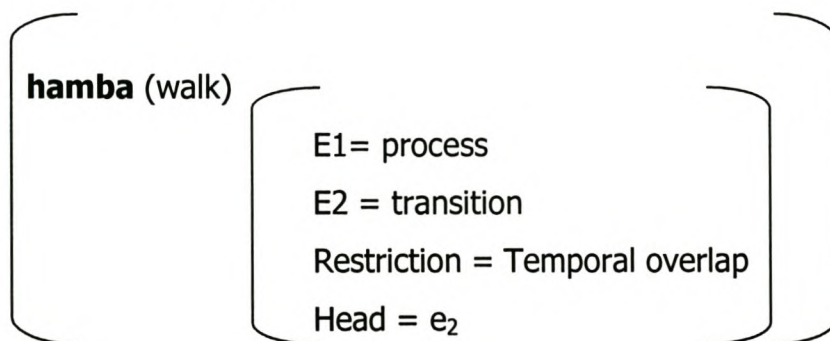


### Temporal overlap

- a.  $e_1$  (head)  $e_2$  : motion verbs **hamba** (walk), **gijima** (run)  
Sihambe amahora amane  
(We walked for 4 hours)

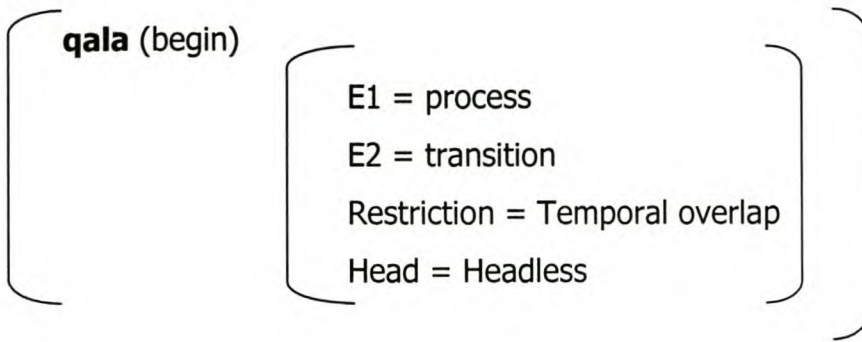


- b.  $e_1e_2$  (head) : hambela ekhaya (walk home)  
Sihambele ekhaya  
(We walked home)



- c.  $e_1$  (head)  $e_2$  (head) : ( ) No verb fits into this category.
- d.  $e_1e_2$  (headless) raising / control predicates such as **qala** (begin) / **yeka** (stop)  
Sizoqala ukuhlakula umhlaba

(We will begin to plough the land)



## 2.6 SUMMARY

In this chapter Vendler's classification of aspectual classes formed a base from which the Zulu event structure has been discussed. The contribution of the two theories i.e. the two component theory of Smith (1997) and the Event Structure of Pustejovsky (1995) which is situated within the Generative Lexicon theory of lexical semantics featured prominently in the analysis of events and states in Zulu.

With regard to the views of Smith (1997) the following issues have been found to be relevant in Zulu: there are four situation types in Zulu which are distinguished from each other by the temporal features of static/dynamic, telic/atelic and durative/ instantaneous. The situation types may appear in certain verb classes with a certain verb constellation. The situation is presented with its initial and final endpoints in the basic level situation. The derived-level situation types are complex, with an internal structure consisting of instances of another situation type.

Situation types in Zulu are expressed through the following types: activity, states, accomplishment and achievement. An activity indicates a process in which things are happening or being done. They are characterized by the feature dynamic, atelic and durative. The action stops it does not finish, hence there is no notion of completion. Several verb classes may feature activities.

States may be described as stable situation which are conceived of as existing rather than happening and as homogeneous, continuous and unchanging throughout its duration.



With aspectual type state two kinds can be distinguished i.e. the individual-level and stage-level. Their temporal features are static and durative.

With accomplishments the event is completed successfully and it results in a change of state which reflects the completion of process. The temporal features of this situation type are dynamic, telic and durative.

Achievements are events that are instantaneous in nature and they result in change of state. The change has a point-like quality to it. There is a point adverbial modification of time indicating when the event took place denoting achievement. Their properties are dynamic, telic and instantaneous.

According to Pustejovsky (1995) the Generative lexicon involves various levels of representation of which event structure is one of such level. Three event types have been identified for Zulu i.e. state, process and transition. These events may be considered as complex semantic objects which are composed of sub-events and this issue leads to defining of an extended event structure within the generative lexicon. The extended event structure can be represented by three different types of relations between an event and sub events as follows: temporal ordered sub events, simultaneous sub events and temporal overlap. There are some ordering restrictions over these events. The event structure can be further distinguished by headedness.

## CHAPTER 3

### THE TENSES OF ZULU

#### 3.1 INTRODUCTION

The aim of this section is to investigate the tenses of Zulu within the theories of Hornstein (1990) and Declerck (1991). The theory of Hornstein is based on the Reichenbachian Theory of tense which has as viewpoint the fact that tenses can be represented by E and S, E designating the event time and S the moment of speech. Declerck's (1991) basic principles of analyzing the temporal structures underlying the tenses will also be looked at in examining the Zulu tenses. Such principles refers to the definition of the moment of speech, time of the situation and the reference time in the structure of tenses. Zulu tenses will be carefully analysed to see whether they comply with these theories.

An overview of theories of tenses will firstly be considered below:

#### 3.2 OVERVIEW OF THEORIES OF TENSES

##### 3.2.1 Hornstein (1990)

###### The Basic Tenses

According to Hornstein (1990), English clauses consist of two types : finite and infinitival. Finite sentences have open tense markers, the event is relative to some specific time. Consider these sentences :

- (1) a. John kissed Mary
- b. John is kissing Mary
- c. John will kiss Mary

All these sentences in (1) refer to the same event but each reflecting a temporal location relative to the moment of utterance. The time specification is accomplished through



morphemes in the verbal system. Some languages use adverbs to indicate tense, some rely on the context to specify tense. Tense locate events that sentences represent in time.

Hornstein (1990:9) poses five questions which he uses as a guide in discussion of tense :

- What is the fine structure of tenses in natural language? In other words, how are tenses to be represented?
- How do tenses combine with other temporal specifiers, such as temporal adverbs and other tenses in multi-clausal constructions?
- How do the actual morphemes that carry tense information map onto the tense structures of the tense system?
- What is the relationship between the temporal interpretation of tenses and their formal structure?
- What kind of logico-grammatical element is a tense?

### **A Reichenbachian Theory of Tense**

According to Reichenbachian Theory of tense, the tenses can be represented by E and S, E designating the event time and S the moment of speech. The past tense says that E is before S, the present that E is at S, and the future that E is after S. Three tenses in (1) can be represented as in (2).

- (2) a. E \_\_\_\_\_ S  
 b. S, E  
 c. S \_\_\_\_\_ E

The S point plays two roles. The first role which is general in nature is that of a deictic element that is interpretively anchored within the speech situation. A second one which is more specific is to anchor the temporal specification of the event point E relative to the moment of speech. There are instances in which tenses, though still deictic are not evaluated relative to the moment of speech.

The S point can anchor to moments other than the time of utterance. Other temporal moments can be exploited under the right circumstances, this is shown by the use of tenses in historical narratives.

Thirdly the most distinctive feature of Reichenbach's theory is as follows : He assumed that the relationship between S and E was mediated via another temporal primitive : the Reference point R (Hornstein, 1990:12). The relationship between S and R constitutes the primary tense relation, R is then related to E. The link between S and E is derivative depending on the relation between these other two links.

The interpretive effects of the R point is not visible in many tenses like S and E. To illustrate this point consider the simple past represented in (3).

(3) E.R \_\_\_ S

Both E and R are interpreted as temporally earlier than S but the presence of R in (3) has no visible effect on the temporal specification of the event time. The R point does not affect the temporal relationship between S and E, it remains the same.

The interpretive effect of R can be seen in more complex tenses for example sentence with future perfect as in (4).

(4) John will have left at 3 o'clock.

E is replaced some time in the future relative to the moment of speech but before 3 o'clock. R is specified by the modifier 3 o'clock. The tense structure of (4) is represented as in (5). E is placed between the moment of speech and a reference point R in accord with the natural interpretation of (4).

(5) S \_\_\_ E \_\_\_ R

According to Reichenbach similar effects could be observed in the past perfect and even the present perfect. The tense structure of the past perfect is as follows :



(6) E \_\_\_ R \_\_\_ S

The perfect tenses reflect the character that R and E are not interpreted as contemporaneous, thus introducing R is not superfluous to specifying the location of E. To Reichenbach, R is part of every tense representation, not only the complex perfect tenses. Even in instance where R has no apparent interpretive reflex, it is still part of the tense representation. R is one term in a syntactic relation that obtains even when not semantically visible. Reichenbach's tense is a complex of three points (S,R and E) temporarily ordered with respect to one another.

Tense is a linearly ordered complex made up of three points : S, R and E. The points can be separated by a line or a comma. If two points are separated by a line, the lefthand point is interpreted as temporally earlier than the other. Points separated by a comma are associated points and can be interpreted as contemporaneous.

English has six basic tenses, the structures of which are given in (7)

- (7) S, R, E present  
 E, R \_\_\_ S past  
 S \_\_\_ R, E future  
 E \_\_\_ S, R present perfect  
 E \_\_\_ R \_\_\_ S past perfect  
 S \_\_\_ E \_\_\_ R future perfect

### **Tenses and Adverbs**

Temporal adverbs modify tense and thus contribute to the formation of complex tense structures. When these complex structures are derived some constraints are made in order to preserve certain aspects of basic tense structures. Definition used in constraints on the reordering of basic tense structure are as follows :

(8) X associates with Y =<sub>def</sub> X is separated from Y by a comma

- (9) BTSs preserved iff
- a. No points are associated in DTS that are not associated in BTS.
  - b. The linear order of points in DTS is the same as that in BTS.

(10) Constraint on DTS (CDTS) : DTS must preserve BTS.

There are various ways used in the formation of derived tense structure. Adverbs can combine with a basic tense to yield a complex tense configuration. Time adverbs can be mapped onto the R and or E points of basic tense. Any temporal adverb must map onto at least one of these points.

The occurrence of the SRE points can be manipulated up to a certain point being limited by the CDTS. In order for a sentence to retain a temporal interpretation it has to honour the constraint. Temporal adverbs can be pictured as altering BTS by moving R and E around (Hornstein, 1990:16). Few modifications are permitted. The preservation of the underlying BTS will allow the complex DTS to have a temporal interpretation.

The adverbial modification linearly rearranges R and F points in accordance with the meaning of the particular adverb. To illustrate this consider the R and F points around S of these sentences :

- (11) a. John left yesterday  
b. \*John left at this very moment / right now  
c. \*John left tomorrow
- (12) a. John is leaving at this very moment / right now  
b. John is leaving tomorrow  
c. \*John is leaving yesterday
- (13) a. John will leave tomorrow  
b. \*John will leave at this very moment / right now  
c. \*John will leave yesterday











(23) a. E \_\_\_ R \_\_\_ S  $\xrightarrow{\text{right now}}$  E \_\_\_ R, S  
 |  
 right now

b. E \_\_\_ R \_\_\_ S  $\xrightarrow{\text{right now}}$  R \_\_\_ E, S  
 |  
 right now

Hornstein (1990:20) states the following reasons of why (23a) and (23b) are ill-formed. (23a) is ill-formed because it associates R with S in DTS though they were not so positioned in BTS. (23b) associates E with S, in violation of the first part of the CDTS, and also violates the second part of the condition by altering the linear order of R and E. The upshot is that DTS is permitted in impermissible ways in both instances.

(19c) also has a similar explanation to (19b) : tomorrow moves either E or R to the right of S thus violating the second part of the CDTS.

(24) a. E \_\_\_ R \_\_\_ S  $\xrightarrow{\text{tomorrow}}$  R \_\_\_ S \_\_\_ E  
 |  
 tomorrow

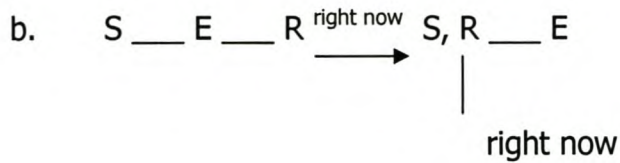
b. E \_\_\_ R \_\_\_ S  $\xrightarrow{\text{tomorrow}}$  E \_\_\_ S \_\_\_ R  
 |  
 tomorrow

(19a) has two different derived structures and they are both well formed.

(25) a. E \_\_\_ R \_\_\_ S  $\xrightarrow{\text{yesterday}}$  E \_\_\_ R \_\_\_ S  
 |  
 yesterday





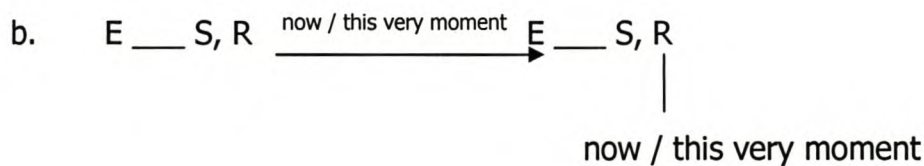
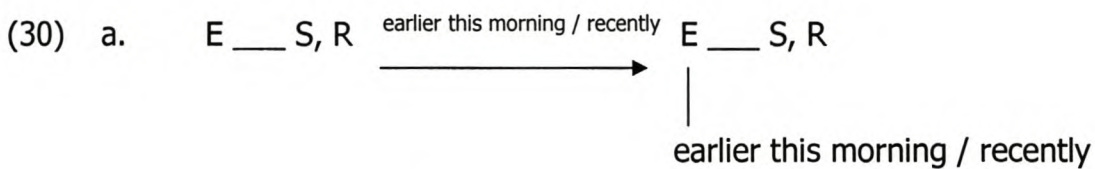


(28a) and (28b) are the two possible DTS. The former violates the restriction against associating points not associated in BTS. (28b) violates both parts of the CDTs. The linear order of R and E is different than in BTS, and R is associated with S in DTS but not in BTS. Thus, both derived tense structures are ill-formed.

The present perfect is represented as follows :

(29) E \_\_\_ S, R

Both the E point and the R point are open to modification. If the appropriate adverb is mapped onto either, the DTS will be grammatical. The DTS of (20a) and (20b) are as follows in (30).



The adverb recently and earlier this morning, modify E with little difficulty because they pick out moments of time that are temporary earlier than the moment of speech. Now and this moment can pick out the speech time and can modify R which is associated with S (the moment of speech).

The DTS of (20c) is given in (31).





preferred reading in which John's leaving is at 3pm and not before. It appears that pre-sentential adverbs associate with R more readily than with E and that post-verbal adverbs map onto E preferentially.

Groups of temporal adverbs can combine to yield more and more exact temporal specification of R and E. Consider the following sentence :

(34) John left on Friday, in the afternoon, after lunch, at 3pm.

With (34) on Friday in the afternoon, after lunch at 3pm, acts like a single adverbial phrase modifying R or E. It modifies both, given the BTS of the simple past. This type of modification also applies to the past perfect. For example :

(35) John had left on Friday, in the afternoon after lunch at 3pm.

The adverbs all modify either E or R. The mapping cannot be split up into one and some onto the other. Apparently the mapping of the adverbs onto R and E is sensitive to the arrangement of the level of representation akin to S-structure hence (35) cannot be represented at (36), in which John's leaving was prior to Friday afternoon's lunch and at 3pm.

(36) E \_\_\_ R \_\_\_ S  
 |        |  
 3pm    Friday afternoon after lunch

What happens when the adverbs are separated? Consider the following sentence :

(37) Yesterday, John left a week ago

The BTS of (37) is E, R \_\_\_ S the pre-sentential adverbs maps into R, and the post-verbal adverb into E. The DTS of (37) is (38)

(38) E \_\_\_ R \_\_\_ S  
 |        /



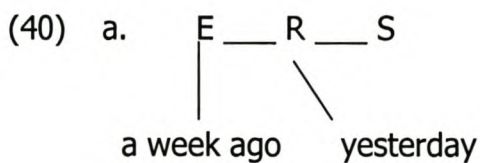
a week      yesterday

With (38) the underlying BTS is preserved by the adverbial modification the structure is well-formed and the sentence is acceptable.

The past perfect has the following BTS E \_\_\_ R \_\_\_ S. Consider this example.

(39) Yesterday, John had left a week ago.

(39) has the following DTS as in (40).



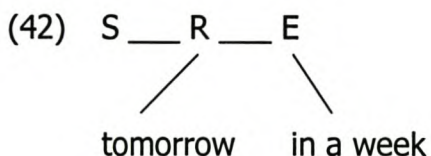
Yesterday shifts E to between R and S and this violates the second part of the CDTS.

The BTS of the present tense is S, R, E. The adverbial modification will violate the linearity constraint by rearranging the BTS linear order of the SRE points in DTS. Past adverbials such as yesterday a week ago shift R and E points to the left of S.

The BTS cannot be destroyed by the future adverbials hence the following sentence are acceptable.

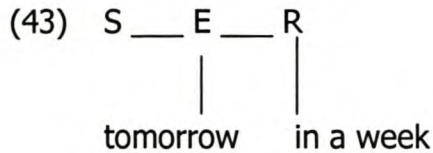
- (41) a. John is leaving tomorrow in a week.  
 b. Tomorrow, John is leaving in a week.

The DTS is as in (42)



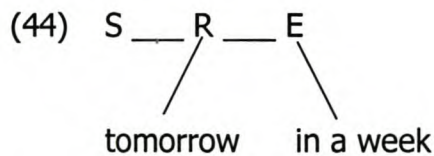
The sentence in (41c) violates the second part of the CDTs, the linearity constraints : its DTS in (43).

(41) c \*In a week, John will leave tomorrow



### Adverbs as modifiers

Unacceptable sentences are filtered out correctly by the CDTs. Well formed DTS represents temporal interpretation of the acceptable sentences. This can be illustrated by the following :



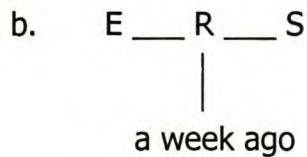
There are two varieties of adverbs that are deictic and anaphoric. Deictic adverbs are S-oriented and their temporal interpretations are determined relative to the moment of speech, S. These temporal interpretations orient the adverb by reference to the utterance of time, e.g. now is temporally interpreted as "at the moment of speech".

Other adverbs orient themselves to time other than the utterance of time, e.g. a week ago, in a week. With this adverb the effects of scope dependency in DTS is found.

In (44) the temporal interpretation of in a week is dependent on the temporal interpretation of tomorrow; the event time E is some days from the moment of speech. The interpretation of E is determined by that of R which is, in turn determined by that of S. The anaphoric adverbs also orient themselves directly to S. Consider (45) :



(45) a. A week ago, John had left



When R is specified and E is modified by an anaphoric adverb, E's temporal interpretations is determined in relation to that of R, E cannot orient itself directly to S. The orientation of anaphoric adverb is strictly local.

The Reichenbachian system emphasizes the fact that temporal adverbs are modifiers rather than operators. They specify values for R and E. They are more akin to adjectives than to quantification expressions.

It is through the position of the S-structure that the mapping of adverbial clusters onto R and E points is determined. Many positions are possible for temporal adverbs at S-structure. Temporal adverbs can occur in a clause with three positions. This also applies even to multiple adverbs.

- (46) a. Yesterday, John left for Paris  
 b. John, yesterday, left for Paris  
 c. John left for Paris yesterday

Temporal adverbs are essentially modifiers. Every adverb must modify something. A sentence with many adverbs becomes unacceptable. Consider sentence (47)

- (47) a. \*Yesterday, John, at 6 o'clock, left for Paris a week ago  
 b. \*Tomorrow, John, in a week, will leave for Paris in a month

In (47a) yesterday has mapped onto R and a week ago, has mapped onto E. This leaves nothing for at 6 o'clock to modify.

Sentence-initial adverbs and immediate post-subject position map into R as in (48)

- (48) a. A week ago, John had left for Paris  
 b. John, a week ago, had left for Paris  
 c. Tomorrow, John will have left for Paris

In both adverbial positions map into R (47a) is unacceptable because one adverb is left stranded.

### The tense of Modals

There are sentences that could not have a temporal interpretation but carried a modal interpretation because the tense and adverb combination violated the CDTS.

Modals do have Reichenbachian tense structure and it constrains their interaction with other tensed construction and limit the range of their acceptable modifiers. Consider the sentence in (49)

- (49) a. That will be Max at the door now  
 b. George will leave now  
 c. Suzie will go to sleep now  
 d. John could/should/might/may/can/must go to school  
 now/tomorrow/\*yesterday  
 e. Go to school now/tomorrow/\*yesterday

The assumption that modals can be tensed and the BTS underlying the modals in (49) is SRE (i.e. the present tense) can lead us to the explanation of the pattern of data. In (49d) the BTS should be modifiable with either now or tomorrow in analogy with the non-modal present-tensed sentence (50)

- (50) John is leaving now/tomorrow/\*yesterday









(55) John will have come home yesterday

With (55) the interpretation can be as follows : John must have come home yesterday. The source of the modal interpretation of (55) is simply the past tense of the same will : will is modified by yesterday. The modals must have and can behave exactly as the theory predicts. A well-formed modal + tense + adverb combination always yields a possible temporally located event with a certain degree of probability associated with its realization.

### The Future Tense and Higher Verbs

Will have more than one readings, it is a future-tense marker and it is a modal that underlies the imperative and it is roughly translatable as must. The modal will is modified by a present-tense adverb such as now. Will as future tense acts quite differently from modal will. the future perfect will have acts very differently from the modal of the same name.

The future perfect has the following tense structure (56a) and the modal has the following tense structure (56b)

- (56) a. S \_\_\_ E \_\_\_ R  
 b. E, R \_\_\_ S

The future perfect is ambiguous when modified by an adverb because the adverb can modify R or E. Two temporal readings result because the two points are not interpreted as contemporaneous. With (56b) R and E are associated, there is no ambiguity. This affects all modal + have constructions with this form. The adverb modifies both. The ambiguity portrayed by the past perfect can be illustrated as in (57)

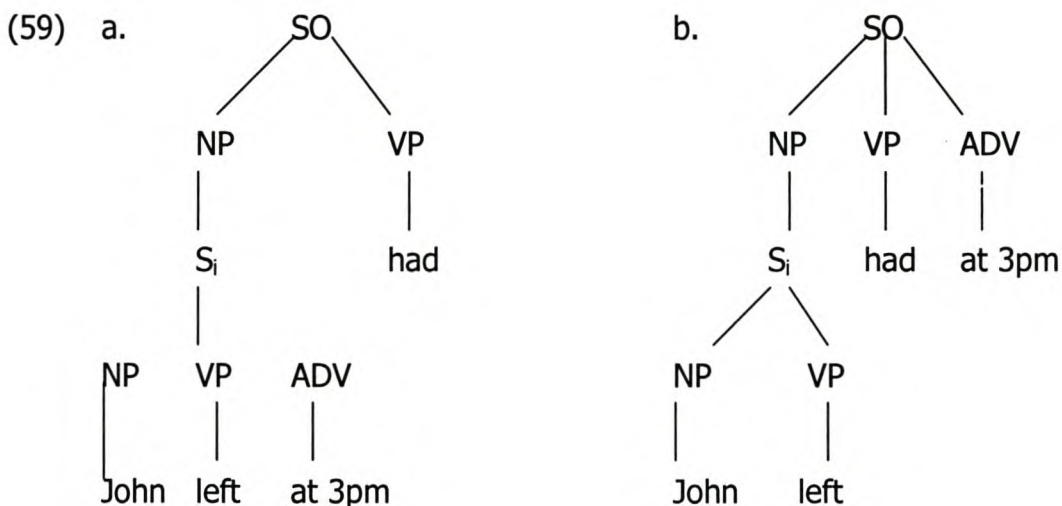
- (57) a. The secretary has eaten at 3pm  
 b. The secretary ate at 3pm.

(57a) is ambiguous and can be rendered as (58a) or (58b).

- (58) a. The time at which the secretary ate was 3 p.m  
 b. The secretary had already eaten by the time 3 p.m rolled around.

(57b) has only (58a) as a paraphrase.

Hornstein (1990:39) says a higher verb have can be postulated. This auxiliary as well as auxiliary elements such as be and must, hangs from a higher sentence and so can have a sentential adverb modifying it. The adverb at 3pm in (57a) can be generated in the higher clause in which case it gives us the interpretation parallel to (58b) or can be generated in the lower clause in which case it gives the interpretation parallel to (58a). These alternatives are displayed in (59)



With (57b) there is no higher clause, the higher have hence it is unambiguous. There is only one position for the adverb and therefore there is only one interpretation for the sentence.

### 3.2.2 Declerck (1991)

#### 3.2.2.1 Primitives and relation in the structure of tense

Declerck (1991) based his work on the basic facts and principles stated by Reichenbach (1947) and Comrie (1985) in their work with three primitives : moment of speech, time of



the situation (event time) and reference time. He suggests that a larger set of primitives is required, and develops his theory as follows : The term situation is a cover term for anything that can be expressed by the predicate of a sentence. He uses the term 'time of the situation', TS to correspond with Reichenbach's 'event time'. TS refers to either a time point or a longer time span. TS is a 'time interval'. For 'speech time', he uses TU which stands for 'time of utterance'.

The term 'reference point' or 'reference time' covers more than one aspect of meaning it refers to 'the point of perspective from which an event is viewed' (Guenther, 1977:83), i.e. the 'time pointed from' and also as a time which can be established by an adverbial or by the context (Comrie, 1985:14), i.e. 'the time pointed to'. Declerck uses these term for the reference time TO for the time of orientation and TE for the time established by an adverbial or by context.

A TO refers to a time to which a situation or another TO is related. Whenever tense is used to refer to a situation the situation is simultaneous with a TO. A TE may or may not function as a TO. A TO may either be specified by an adverbial or recoverable from the preceding context and there are instances in which it is not established in either of these ways as in the following sentence.

- (1) Steve Davis has now collected twenty-seven points. He needed those points badly, for White had made a break of fifty-six.

Declerck (1991:252) states that the TO with which the situation demoted by needed is simultaneous is not established by the preceding sentence, nor by an adverbial. The verb form needed implies that the speaker has a TO in mind which lies in the past with respect to  $t_0$ .

Not all TOs are TEs. Declerck introduces the symbol TOE for TEs that are TOs and he uses it to express the TE which also function as a TO or a TO that is also a TE, i.e. is established by the context or by an adverbial.

Finally Declerck introduces the primitive 'basic time of orientation' ('basic TO' or 'TO<sub>1</sub>'). The basic TO refers to that TO in the structure of a tense from which the temporal relations expressed by the tense begin to be computed. The unmarked situation is for  $t_0$  to function as TO, but in some cases TO, is some other time interval. The temporal relations expressed by a tense form need not always start from  $t_0$  : the 'basic TO' (TO<sub>1</sub>) can also be some other time interval. This other time interval will ultimately also be related to  $t_0$  but this temporal relation is not expressed by the tense form itself.

Declerck's symbols are summed as follows :

- (2)  $t_0$  temporal zero-point (time of utterance or time of decodification)  
 TU time of utterance (coding time)  
 TS time of the situation  
 TE time established (by a time adverbial or by the context)  
 TO time of orientation  
 TOE time that is both TO and TE  
 TO<sub>1</sub> basic TO (the TO that is the starting point for the temporal relations expressed by a tense form)

## Relations

According to Declerck (1991:253) Reichenbach and Comrie work with three relations only : simultaneity, anteriority and posteriority is not sufficient. He is of the opinion that the inclusion relation must be added.

## Time adverbials

Declerck points out that both Reichenbach's theory and Comrie's do not offer a full theory of time reference and their temporal schemata do not provide for the analysis of elements other than tense. He uses the following sentence to support his statement :

- (3) When I arrived Peter had tried to phone me twice during the preceding week.



He says this sentence apart from the moment of speech ( $t_0$ ) it refers to three different times : the time of my arrival, the times when Peter tried to phone me and the time referred to by the preceding week. However Reichenbach's and Comrie analysis of the past perfect (E \_\_\_ R \_\_\_ S) provides only two time-points besides S, R being the time of my arrival, E the times when Peter tried to phone me and fail to provide for the time referred to by during the preceding week.

Declerck (1991:254) says :

A theory of tense must form part of a full theory of time reference and its value can only be judged with reference to the latter.

A theory of tense can only be correct if it can state how situations are located in time.

Tense locates a situation in time with the inclusion of time adverbials. However, Reichenbach and Comrie mention the role played by the adverbials but disregard them because they choose to build a theory of tense rather than a more general theory of time reference. It is the sentence as a whole not the verb tense of the verb alone that locates a situation in time.

### **Time of Orientation**

Declerck has these three conclusions pertaining the TO : if the temporal relations start from  $t_0$ ,  $t_0$  is the basic TO (i.e.  $TO_1$ ) in the schema. Secondly, a situation 'is located at' a certain time it is simultaneous with that time, A situation that is referred to in a tensed sentence is represented as simultaneous with some TO for example the structure of the past tense must be represented as 'TS simul  $TO_2$  before  $TO_1$ ). Lastly any tense whether is used as relative or a absolute tense, has a structure that involves at least one TO (viz. the situation TO) next to  $TO_1$ .

### **Chains of relations**

According to Declerck (1991:256) tense must not be analysed as method of arrangement of times on the line because a tensed sentence expresses relations between some times, but not necessarily between all the times involved in the temporal structure. The temporal structure of a tensed sentence is like a chain of relations it is related to other times but not all of times. Declerck emphasizes this by the following example :

Thus, the conditional tense in 'John said that he would do it' expresses that the situation – TO of that clause (the time of his doing it) is posterior to the situation – TO of the head clause, and that this TO is itself anterior to  $t_0$ , but it does not express a direct relation between the situation – TO of the that-clause and  $t_0$  (i.e. it does not locate the time of doing it relative to  $t_0$ )

### **Further Preliminaries**

Declerck is of the opinion that TS is by definition simultaneous with a TO. TS is occupied by the situation and use the term 'situation span' (SS) to refer to this then he changes the definition of 'simul' in the relation 'TS simul TO' and that means that when a situation is simultaneous with a TO it is true even if the situation is a longer time interval than the TO in question.

This treatment of simul that includes coincidence or overlapping creates the possibility of incorporating the time adverbials in the schemata of tenses.

Several data are accommodated by a theory which holds that the definition of the relation 'TS simul TO' involves the following claims : (1) 'X simul Y' means that X and Y have at least one time point in common; (2) The talk is of the situation as a whole, i.e. TS (the time of the situation) is SS (the time span occupied by the situation).

Declerck (1991:258) says that this theory is untenable and has some problems concerning the present tense, present and the preterit. Bounded and unbounded sentences behave differently.

Declerck (1991:261) summarizes bounded and unbounded as follows :



- a. Boundedness and unboundedness are basically features of situations not sentences, the situations are represented as (un)bounded by the sentences that describe them. These features are linguistic representation of situations that describe them. Both John drank whiskey and John drank six glasses of whiskey can refer to exactly the same situation but the former the situation is represented as unbounded whereas the latter is not.
- b. When a situation is represented as reaching a terminal point it is bounded if it is not terminating it is unbounded.
- c. Accomplishment or achievement situations are classified as bounded whilst Activities and States are unbounded.
- d. Progressive sentences which represent a situation that disregard the beginning and the end and refer only to the middle of a situation are unbounded. For example the fact that John was writing a book does not infer that John wrote a book he might have stopped before finishing to write.
- e. Unbounded sentences are compatible with non-inclusive duration adverbials, i.e. adverbials which answer the question for how long. Bounded sentences are compatible with inclusive duration adverbials, i.e. adverbials that measure the distance between the beginning and the end of the situation (e.g. in fifteen minutes).
- f. Unbounded situations can be broken down into smaller sub-situations of the same nature that means if a duration adverbial is omitted from a sentence representing a situation as unbounded, the same sentence can also be used to refer to smaller parts of that situation. For example : if John ran in the woods from two o'clock to four the unbounded sentences like John ran or John was running are true representations not only of what John did between two and four, but also of what he did between two and three and of what he did between two-thirty and quarter to three etc. They are also additive.

Bounded situations are heterogeneous unitary and non additive. They are not the same all the way through and cannot be broken down into smaller entities that can be indicated with the same name.



The difference between bounded and unbounded situations accounts for the fact that some sentences in the past tense allow the possibility that the situation continues into the present, while others exclude this possibility. Consider the following examples :

- (4) a. Bill wrote a poem today  
b. Five minutes ago Bill ate an apple
- (5) a. Bill was writing a poem today  
d. Five minutes ago Bill was in the kitchen  
e. Bill was at his office today

Sentences (4a-b) are bounded and exclude the possibility that the situation may continue up to  $t_0$ . Sentences (5a-c) are unbounded and can refer to subsituations for example Bill was at his office can refer either to the whole length of time that Bill was at his office or to any subinterval of this.

Unbounded sentences become bounded if an adverbial is added to them which specifies the duration of the situation. For example :

- (6) Today Bill was at his office for three hours.

The past tense in (6) represents the situation as simultaneous with a TO which is anterior to  $t_0$ . (6) therefore implies that the full situation lies before  $t_0$ , i.e. Bill is not at his office any more at  $t_0$ .

According to Declerck (1991:267) TS refer to the time taken up by just that portion of the situation that is talked of in the sentence, i.e. the time of that portion of the situation that is said to have held at the past TOE and that affect the definition of simul which must now only be defined in terms of coincidence only and is equivalent to 'TS = TO'.

If the situation is unbounded TS may be a proper subpart of SS (the time interval occupied by the full situation). Since the sentence only makes a statement about TS, the



intervals contained in SS but not in TS are not referred to : these portion of the situation are not located in time.

The relation 'simul' is one of coincidence : "TS simul TO' means that TS and TO are commensurate. The relation between TE and TO is one of inclusion. This means that TE either properly includes TO or coincides with it.

### 3.2.2.2 The Past Tense (Preterit)

According to Declerck (1991:295), the past tense is identifiable by the following features a situation is located at a time ( $TO_{sit}$ ) which is related to  $TO_1$  in such a way that  $TO_{sit}$  lies in the past time-sphere, whereas  $TO_1$  lies in the present time-sphere thus consist of the following relations :

1. TS simul to  $TO_{sit}$
2.  $TO_{sit}$  before  $TO_1$
3.  $TO_{sit}$  belongs to the past time-sphere
4.  $TO_1$  belongs to the present time-sphere

This can be represented as follows :

1. if TS and  $TO_{sit}$  are punctual : Figure 7.1
2. if TS and  $TO_{sit}$  are durative : Figure 7.2

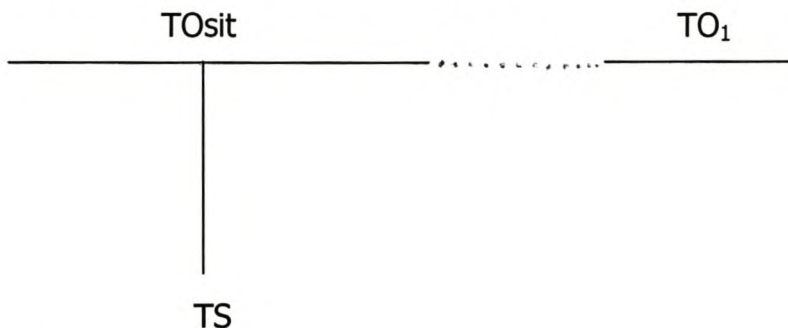


Figure 7.1

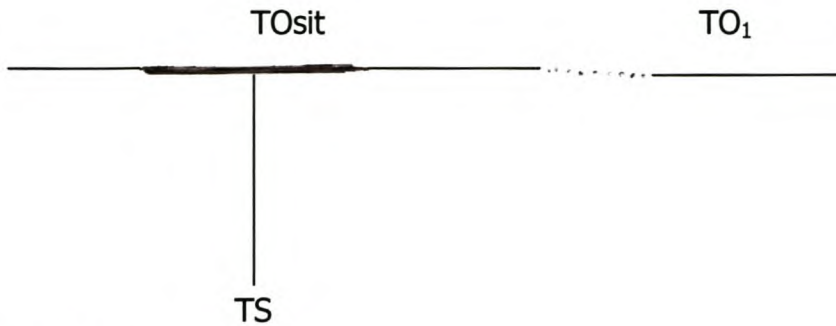


Figure 7.2

Declerck (1991:296) presents an analysis of the various ways in which the past tense can be used.

1. The past tense can be used in an absolute way, as in John was ill yesterday. In that case,  $TO_1$  is  $t_0$ .
2. The past tense can be used as a relative tense (expressing the domain-internal relation of simultaneity). For example :

(7) John said he was ill.

3. The use of the preterit may be the result of a shift of temporal perspective.
  - a. Situations that hold at  $t_0$  are sometimes located in the past timesphere (e.g. I wanted to ask you a few questions)
  - b. Relating a situation to a post-present  $TO$ , this  $TO$  behaves as if it were  $t_0$ . A situation lying before the  $TO$  can therefore be referred to by the preterit, as in Tomorrow John will say that he was ill tonight.
  - c. A case of shift of temporal perspective in which the past tense is used as relative tense (expressing simultaneity) is when a pre-present domain is expanded as if it were a past domain.

(8) He has never admitted that he was not feeling well.

Sentences in the past tense mostly involve a time adverbial establishing a  $TE$ .  $TE$  is related to  $TO_{sit}$  in terms of inclusion :  $TE$  includes  $TO_{sit}$ . This inclusion can be either



'proper inclusion' (i.e.  $TO_{sit}$  overlaps only a portion of TE) or coincidence ( $TO_{sit} = TE$ ). Since both  $TO_{sit}$  and TE may be punctual or durative, this leads to the following possibilities :

1.  $TO_{sit}$  and TE are both punctual (e.g. John left at two-thirty)  
In that case  $TO_{sit}$  and TE must coincide
2.  $TO_{sit}$  is punctual, TE is durative. In that case TE may or may not include  $TO_1$ , but  $TO_{sit}$  must precede  $TO_1$ . For example John left yesterday and John left today.
3.  $TO_{sit}$  and TE are both durative. There are different possibilities as to the relation between  $TO_{sit}$  and TE, and as to the location of TE relative to  $TO_1$  :
  - a.  $TO_{sit}$  may coincide with TE or be a proper subinterval of TE.
  - b. If  $TO_{sit}$  is a proper subinterval of TE, TE may or may not include  $TO_1$ .

TS is that portion of the situation that is located in time by the sentence and may or may not be the time interval corresponding with the full actualized situation. If the situation is bounded (as in I wrote four letters this morning), the time of the full situation coincides with TS. If the situation is unbounded, TS may be a proper subinterval of the time of the full situation. For instance, at the time of the war, John was in London does not exclude the possibility that John was also in London before or/and after the war.

When TS is located as simultaneous with a time which lies wholly before  $TO_1$  will often suggest that the situation does not continue up to  $TO_1$ . This is especially with cases when it is the time adverbial that conveys new information in the sentence. For example :

(9) When was John in London? - John was in London yesterday.

The preterit expresses only that time of the situation that is talked of in the sentence and carries the implication that the situation does not continue into the present. The preterit locates a situation at some 'definite' time in the past. The preterit does not imply that the hearer is expected to be able to identify this time. The past tense does not appear to refer to a specific time. Consider the following example :



- (10) We know that John lived in Boston for some time and was quite a respectable citizen there. But we do not know when that was, nor where he went afterwards.

With (10) the preterit form locate a situation in the past but do not appear to locate it at a specific time interval. There are instances when the speaker need not have a definite time in mind and in which it is therefore irrelevant for the hearer to try and identify such a time.

The semantic difference between the preterit and the present perfect is the preterit locates a situation in the past time-sphere whereas the present perfect locates it in the present time-sphere. The present time-sphere includes  $t_0$ , whereas the past time-sphere lies wholly before  $t_0$ .

Declerck (1991:309) gives the following summary about the preterit :

1. The difference between the present perfect and the past tense is that they locate situations in different time-spheres.
2. When the speaker locates the situation in the pre-present sector, this means that he is concerned with the structure of the world at  $t_0$  rather than with some aspect (when?, where?, how?, why? etc.) of the situation itself. This means that the present perfect will be used (a) if the situation still continues at  $t_0$ , (b) if the speaker is concerned with the fact that the situations has held and has thus become part of the structure of the world rather than with another aspect of the situation, and (c) if there is some other reason for the speaker to view the past situation as part of the world structure at  $t_0$ .
3. The speaker will use the past tense if he does not want to represent the situation as part of the structure of the world at  $t_0$  :
  - a. If the speaker wishes to establish a contrast between the situation and the present structure of the world, for example



- (11) a. He is not so active as he was  
b. I didn't know you were a teacher

b. The speaker is not thinking of  $t_0$  either if he focuses exclusively on the past situation. Two possibilities can be found.

- i) When the speaker is only concerned with one of the aspects of the past situation (e.g. with the question of when, why, where, how etc. it took place, or who was involved in the situation) for example

- (12) a. I can't remember where I bought that vase.  
b. Just tell me how you did it.

- ii) Sometimes the speaker just wants to inform the hearer of the fact that the situation took place, but without representing it as part of the structure of the world at  $t_0$ . For example :

- (13) The expectation of life of a heroin addict is about 2 years. A doctor friend of mine was telling me.

4. When a statement is made about a particular aspect of the past situation, one must ensure that the situation in question is identifiable to the hearer. This information may be available to the speaker in several ways :

- a. The hearer will know which situation is referred to if it has already been mentioned.
- b. When a situation that is mentioned for the first time is located in the past time-sphere, it can be identifiable to the hearer in one of the following ways:
- i. The situation is uniquely identifiable for the simple reason that it is unique, no other situation can be described in the same terms. For example, The Hindenburg exploded.
- ii. The situation is identifiable. For example 'if I see you with a broken arm, then I can ask how did you break your arm?'

- iii. The information may be given by a (definite or indefinite) time adverbial in the speaker's sentence itself (e.g. three days ago, a long time ago).

### 3.2.2.3 The Present Tense

Declerck (1991:313) disagree with Comrie (1985) who says that the present tense involves one relation viz. 'E simul S' because according to this principle a structure of the present tense is represented as 'TS simul TO<sub>sit</sub> simul t<sub>0</sub>' and this representation appears to be unacceptable since 'simul' is defined in terms of coincidence, and since t<sub>0</sub> is by definition punctual the representation 'TS simul TO simul t<sub>0</sub>' would entail that the TS referred to in a sentence in the present tense would necessarily be punctual. Sentence like John is in London today are statements about situation that occupy more than a single point on the time line and it suggest that John is actually in London for some time before and after t<sub>0</sub>. TS is represented as durative rather than punctual.

Declerck is of the opinion that the temporal structure of the present tense must be such that it involves the relation 'TS simul TO<sub>sit</sub>' but not the relation 'TO simul t<sub>0</sub>'. Since t<sub>0</sub> is punctual, while TO<sub>sit</sub> may be durative, the relation must be one of inclusion : TO<sub>sit</sub> includes t<sub>0</sub> in the sense that t<sub>0</sub> either coincides with TO<sub>sit</sub> (if the latter is punctual too) or is properly contained in TO<sub>sit</sub>.

States (including habits) are conceived as permanent rather than temporary cannot be located at a punctual time interval.

Sentences like John knows English do not locate the situation at t<sub>0</sub>, but at a time that is much longer than t<sub>0</sub>. Hence the relation between TO<sub>sit</sub> and t<sub>0</sub> must be that of inclusion rather than coincidence.

Declerck concludes that the present tense expresses two relation, viz. 'TS = TO<sub>sit</sub> and TO<sub>sit</sub> includes t<sub>0</sub>'. The following sentences (14) and (15) are represented by the following structures Figure 7.12 and 7.13 respectively :



(14) Today John is in London from eight o'clock this morning until seven today.

(15) I hear a shot!

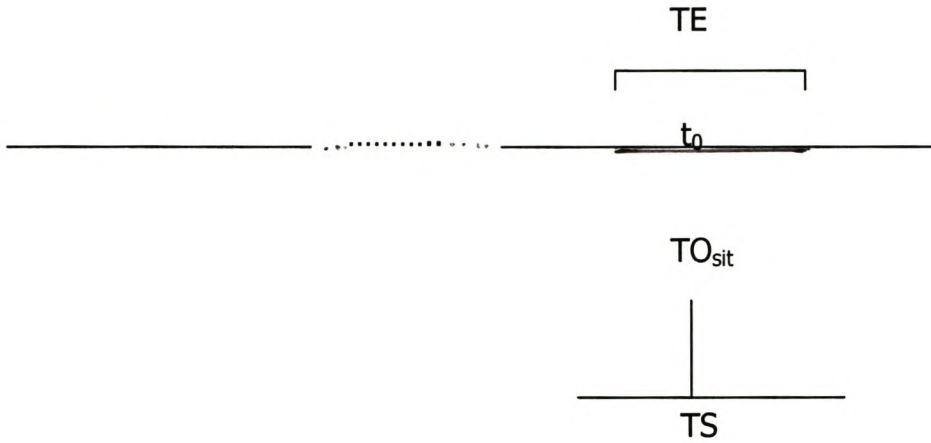


Figure 7.12



Figure 7.13

Figure 7.12 represents  $TO_{sit}$  (and hence TS) as commensurate with TE. Sentence (14) means that the situation of John being in London holds for the full timespan indicated by the time adverbial. The time adverbial is a bounded one : in that case  $TO_{sit}$  (and hence TS) is always commensurate with TE (today) and TS coincide is also predominant but it is not the only possible one.

Figure 7.13 represents the structure of sentences whose situation is conceptualized as beginning and ending at the time of speech.

Sentences in the present tense can also have the structures represented by Figures 7.14-7.15.

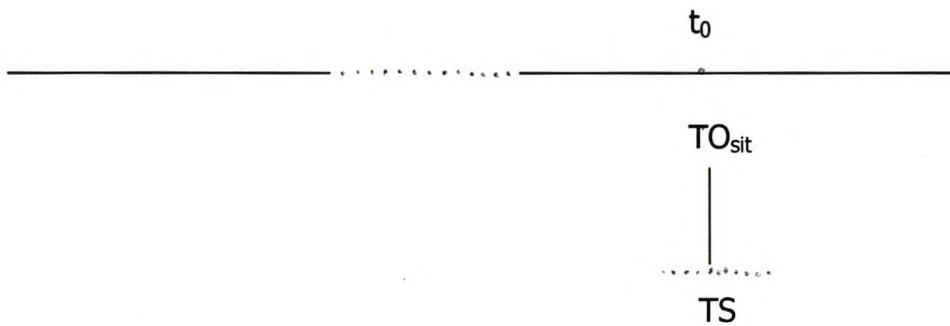


Figure 7.14

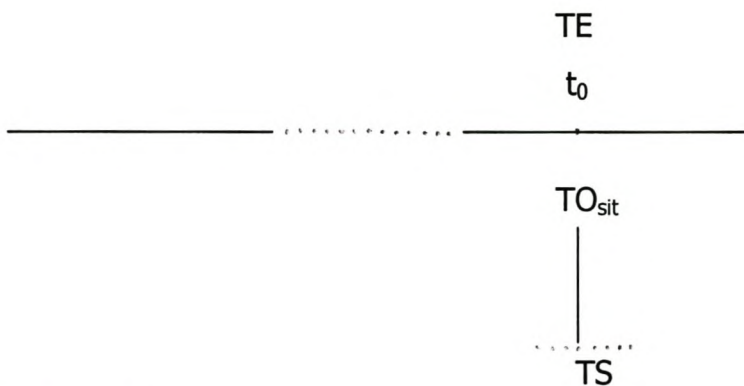


Figure 7.15

Figure 7.14 represents the temporal structure of a sentence like John is sleeping, hence there is no  $TE$  established by an adverbial like John is sleeping and the situation is unbounded. Figure 7.15 represents the structure of an unbounded sentence containing a punctual time adverbial referring to  $t_0$  e.g. John is sleeping at this moment.

In a repetitive sentence the structure of the present tense is, as it were, reduplicated : each sub- $TS$  is simultaneous with a sub- $TO_{sit}$  and all sub  $TS$ s together form a  $TS$  which is simultaneous with a  $TO_{sit}$  that is the sum-total of all the sub- $TO_{sit}$ s. Figure 7.16 represents the structure of the present tense in the head clause of (16).



(16) John is always sleeping when I come home.

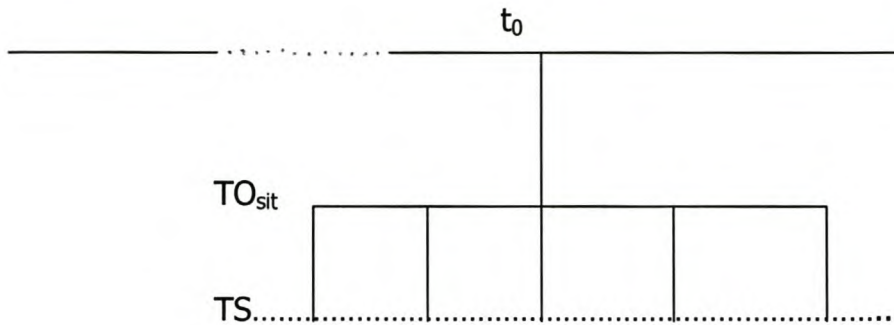


Figure 7.16

The present tense described above involves the relation ' $TO_{sit}$  includes  $t_0$ '. This only applies to the present tense in its absolute use.

The present tense cannot normally be used to refer to a durative bounded situation whose  $TO_{sit}$  includes  $t_0$ . Consider the following examples :

- (17) (a) John is in London  
 (b) John is writing a letter  
 (c) I declare this meeting closed  
 (d) John writes a letter

(17a-b) both represent their situation as unbounded and as including  $t_0$ . Sentence (17c) represents its situation as punctual and as coinciding with  $t_0$ . Sentence (17d) requires a special kind of interpretation. It cannot be used to represent the writing of the letter as including  $t_0$ . This follows from the fact that the non-progressive verb phrase writes a letter represent a situation as bounded. It is impossible to represent a situation at the same time as bounded and as including  $t_0$ . A durative situation can include  $t_0$  when : either the situation begins at  $t_0$ , or it is in progress at  $t_0$ , or it terminates at  $t_0$ . The present tense can only represent the situation as still in progress at  $t_0$ .

### 3.2.2.4 The Future Tense

According to Declerck (1991:369) the future tense can effect a double kind of location in time, i.e. it can represent a situation either as lying wholly after  $t_0$  or as holding from  $t_0$  onwards as shown by the following example :

- (18) (a) I will do it next week  
 (b) They will arrive any minute now
- (19) (a) From now on nobody will receive any more grants from us.  
 (b) As from today I will give the orders here.

In (18a-b) the future tense show the situation completely after  $t_0$ . In (19a-b) the future tense situation includes  $t_0$  and stretches into the future.

Declerck says although the future tense can in principle refer to a situation that starts at  $t_0$ , it is often used in this way. In fact, the future tense carries the implicature that the situation is not yet holding at  $t_0$ , and it is only when this implicature is cancelled that the reading 'from  $t_0$  onwards' is suggested. This is reflected in (19a-b) where the implicature is cancelled either by an adverbial or by the pragmatics of the situation of speaking.

The future tense can realize two temporal structures : one involving a relation in (20a) and one in (20b).

- (20) (a) TS simul  $TO_{sit}$   
 $TO_{sit}$  after  $TO_1$
- (b) TS simul  $TO_{sit}$   
 $TO_{sit}$  from  $TO_1$  onwards

The sets of relation expressed in (20a-b) are represented by Figures 7.34 (e.g. John will do it) and 7.35 (e.g. As from now I will give orders here)



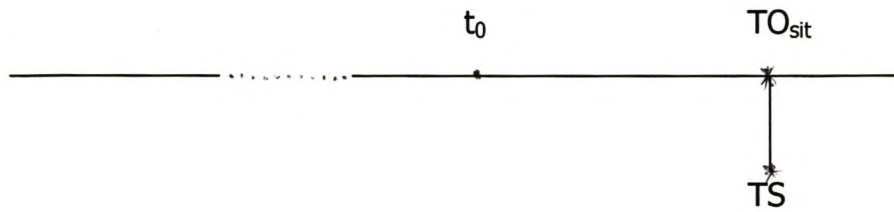


Figure 7.34

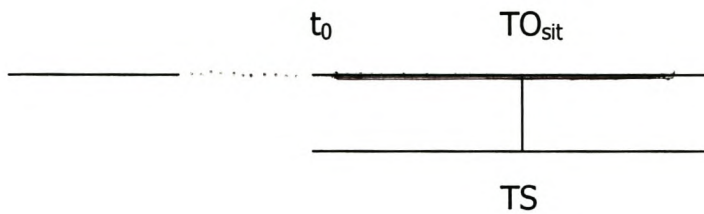


Figure 7.35

If the sentence contains a time adverbial, the temporal structure of the sentence will involve the following relations in addition to those specified in (20).

- (21) (a) TE includes  $TO_{sit}$  (As usual, this means that TE either includes  $TO_{sit}$  properly or is simultaneous with it).  
 (b) TE lies in the future of  $TO_1$ . It may or may not include  $TO_1$ .

This yields the following possibilities.

1. In sentences like John will arrive at five o'clock, the temporal structure is as follows:

$$(22) \quad (TS = TO_{sit} = TE) \quad \text{wholly after } t_0.$$

2. A sentence such as I will be somewhere else all day tomorrow also has the structure represented by (22), but TS,  $TO_{sit}$  and TE are now durative.

3. The structure realized by John will arrive tomorrow consist of the following relations:
- (23) (a)  $TS = TO_{sit}$   
 (b) TE properly includes  $TO_{sit}$   
 (c) TE wholly after  $t_0$   
 (d)  $TO_{sit}$  wholly after  $t_0$ .
4. A sentence like I will not be here for some time tomorrow has the following structure :
- (24) (a) TE properly includes  $TO_{sit}$   
 (b) TS simul  $TO_{sit}$   
 (c)  $TO_{sit}$  wholly after  $t_0$   
 (d) TE wholly after  $t_0$ .
5. The temporal structure of the sentence I will not be here for some time today also involves the relations specified in (24a-c), but instead of (24d) we now have the relation 'TE includes  $t_0$ '.
6. The sentence John will arrive today has the same temporal structure, but  $TO_{sit}$  and TS are now punctual.
7. A sentence such as I will henceforth use the term in this sense realizes the following structure :
- (25)  $(TS = TO_{sit} = TE)$  from  $t_0$  onwards.

When the future tense is used as a relative tense, the only difference is that  $TO_1$  is not  $t_0$  but another TO (which necessarily lies in the future of  $t_0$ ). Consider this example :

- (26) Bill will declare that he will leave the country.



Here he will leave the country realizes the structure '(TS = TO<sub>sit</sub>) wholly after TO<sub>1</sub>', where TO<sub>1</sub> is the TO<sub>sit</sub> of the head clause, which lies wholly after t<sub>0</sub>.

### 3.3 REICHENBACH AND THE TENSES OF ZULU

The Reichenbachian theory will serve as the basis on which an investigation into the meaning of the four basic tenses, viz. present, future, perfect and A-past in Zulu will be conducted.

#### 3.3.1 The Present Tense

Zulu tenses will be investigated according to time of the action. The present tense refers to the situation which occurs today or now but have a much longer period than the present moment. The present tense is used to speak of states and processes which may hold at the present moment but might have begun before the present moment and may well continue beyond the present moment as in :

(27) Umfana ulusa izinkomo

(The boy looks after the cattle; the boy is looking after the cattle)

In the above sentence (27), it is indeed true that the situation holds at the present moment, that is, at this moment that the boy is looking after the cattle but the situation is not restricted to the moment of action, it might take longer than the present moment.

With the present tense two forms are distinguished, i.e. the short present tense and the long present tense. The long present tense is characterized by the prefixing of the formative **-ya-** and the short present appears without the **-ya-**.

##### 3.3.1.1 Long form of the Present Tense

a. When no other phrase or clause appears after the verb :

With intransitive verbs :

- (28) Ngi-ya-jabula  
(I am happy)

With transitive verbs :

- (29) Si-ya-dla  
(We are eating)

With transitive verbs with objectival agreement or a reflexive prefix :

- (30) (a) Ngi-ya-ba-shaya  
(I am hitting them)  
(b) Ngi-ya-zi-bona  
(I am seeing myself)

b. When objectival agreement appears with the object only :

- (31) Ngi-ya-yi-thenga [indlu]  
(I am buying the house)

With ditransitive verbs the long form of the present tense may also appear if one of the objects is represented by objectival agreement.

- (32) Ngi-ya-ku-nika [le nto]  
(I am giving you this thing)

c. When the activity or event which is designated by the verb is emphasized, the long form may appear with any adverb, locative, phrase, clause or object with its agreement :



- (33) Ba-ya-qala [ukufunda]  
(They start reading)
- (34) Ba-ya-sebenza [edolobheni]  
(They work in town)
- (35) Ngi-ya-hlangana [nabo]  
(I meet with them)
- (36) Ngi-ya-ba-bona [laba bantu] [edolobheni]  
(I see these people in town)
- (37) Ngi-ya-funa [ukuthi bafunde]  
(I want that they should read)
- (38) Ba-ya-cula [kahle]  
(They sing well)
- (39) Ba-ya-sebenza [kabi]  
(They work badly)
- (40) Si-ya-hamba [manje]  
(We are going now)
- (41) Ngi-ya-hlakula [njalo]  
(I always plough)

### **3.3.1.2 Short form of the Present Tense**

- a. With an object of a transitive verb but without its objectival agreement :

- (42) Ngi-funa [amaswidi]  
(I want sweets)

- b. If the tense is followed by any adverb, locative, prepositional phrase, clause with or without objectival agreement on condition that the activity or event receives no specific emphasis in its interpretation :

- (43) Ngi-ya [esitolo]  
(I am going to the shop)
- (44) Ba-sebenza [manje]  
(They work now)
- (45) Ngi-ba-bona [laba bantu] [engadini]  
(I see these people in the garden)
- (46) U-ngi-zwa [ngicula]  
(Does he hear me singing?)
- (47) Ngi-zi-bona [kahle]  
(I see myself well)
- (48) Ngi-funa [ukuthi bafunde]  
(I want them to learn)
- (49) Ngifuna [ukusebenza]  
(I want to work)

- c. When any interrogative word appears with a verb :

- (51) (a) U-sebenza [phi]?  
(where do you work)?
- (b) Ni-hlala [kanjani]?  
(How do you stay)?
- (c) Ni-ba-siza [kangakanani]?



- (How far do you help them)?
- (d) Ni-gijima [kangaki]?  
(How many times do you run)?
- (e) U-lima [ngani]?  
(With what do you plough)?
- (f) Ni-funda [nini]?  
(When do you read)?
- (g) U-funa [bani]?  
(Whom are you looking for)?
- (h) U-funa [ni]?  
(What do you want)?

With a transitive verb, the object has to be moved when an interrogative word appears, but in such a case the objectival agreement of the object has to appear on the verb :

- (52) U-wu-gawula [phi] [lo muthi]?  
(Where do you chop this tree)?

d. Verbs such as **thi** may only appear in the short form of the Present Tense :

- (53) Ba-thi [ma-ba-hlale]  
(They said they should stay)

### 3.3.1.3 Interpretation of long and short forms of the Present Tense

The distinction between these two forms of the Present Tense is only concerned with the presence of the morpheme [-ya-]. This morpheme does not directly contribute to any difference in the meaning of the Present Tense with regard to its interpretation of time. However, as indicated above, the presence or absence of [-ya-] may give rise to a certain emphasis on the action or event designated by the verb. It is however, clear that the distinction between these two forms of the Present tense is primarily syntactic in nature,

and secondary, only with regard to the semantic feature of emphasis and not to any feature which is exclusively related to time.

With regard to Reichenbachian theory of tenses, one realizes that the BTS for the present tense in Zulu has the structure [S,R,E] and it implies that the action which takes place is interpreted as temporally contemporaneous in the case of the present tense in Zulu.

The long form with an adjunct has an added meaning of emphasis on the predicate :

- (54) Bayadlala manje  
(They are playing now)

This reading (i.e. the [S,R,E] further implies that the moment of speech (S), the reference point (R) and the event time (E) are associated and divided from one another by a comma. Consider the following example sentences :

- (55) a. (i) Abafana ba-ya-dlala manje  
(The boys play now)  
(ii) Abafana ba-dlala manje  
(The boys play now)
- b. (i) Abafana ba-ya-dlala kusasa  
(The boys play tomorrow)  
(ii) Abafana ba-dlala kusasa  
(The boys play tomorrow)

The interpretation of the above example sentences is based on the theory that the present tense in Zulu has the BTS [S,R,E]. These sentences have been modified by **manje** (now or right now which refers to the moment of speech), **kusasa** (tomorrow which designates a time later than the moment of speech).

The role played by these adverbial modifications (viz. **manje**, **kusasa**) yields the derived structures shown below :



- (56) a.(i) Abafana ba-ya-dlala manje  
(The boys play now)

BTS	DTS
= S,R,E manje →	S,R,E
	manje (now)

- (ii) Abafana ba-dlala manje  
(The boys play now)

BTS	DTS
= S,R,E manje →	S,R,E
	manje (now)

The above sentence structures a(i) and a(ii) give an indication that both these sentences have the same meaning although sentence structure (56a(i)) uses the present tense in its long form with **-ya** and sentence structure (24a(ii)) appears without **-ya-**, that is, the short form.

The two sentences show different morphological structures, and indicate actions taking place in the present, which have the same meaning, i.e. both structures share the same meaning. Hence the moment of speech (S), the reference point (R) and the event time (E) are associated.

Both structures give the reading that the event of the boys playing takes place in the present time relative to the moment of speech and that this moment is now. **Manje** (now) is interpreted as temporally contemporaneous with the three points (viz. S,R and E).

The DTS of both structures does not alter the BTS order of the S,R,E points :

BTS	DTS
= S,R,E manje →	S,R,E

Hence both structures (56a(i)) and (56a(ii)) have well-formed DTS which leave the BTS unchanged.

(56) b.(i) Abafana ba-ya-dlala kusasa  
(The boys play tomorrow)

BTS	DTS
= S,R,E kusasa →	S ___ R,E   kusasa (tomorrow)

(ii) Abafana ba-dlala kusasa  
(The boys play tomorrow)

BTS	DTS
= S,R,E kusasa	S ___ R, E   kusasa (tomorrow)

The common factor about the structures in (56b(i)) and (56b(ii)) is the fact that they have the same meaning though their structures differ morphologically. The present tense in both structures denote the future.

Although the moment of speech (S) is now, the reference point (R) and the event time in the DTS is tomorrow (kusasa) (i.e. in the future – a time later than the moment of speech (S)). Hence the S-point is dissociated by a time line (-) from the associated R and E points.

The S-point on the left is interpreted as temporally earlier than the R and E points on the right.



The adverbial extension of time 'kusasa' (tomorrow) influences the R, E points to shift to the right of the S-point in the DTS.

The CDTS allows such structures to occur. The CDTS permits this because the linear order of points in the DTS are the same as that in BTS.

The other fact is that all points associated in DTS are also associated in BTS, i.e. R,E are associated in BTS and DTS, and have the same linear order.

Not all temporal adverbials associated with the present tense yield an acceptable sentence. Using the adverbs which refer to the past time like **izolo** (yesterday) and **nyakenye** (long ago) with the present tense result in ungrammatical sentences. Consider the following examples :

(57)(a)(i) \*Abafana ba-ya-dlala izolo  
(The boys are playing yesterday)

(ii) \*Abafana ba-dlala izolo  
(The boys play yesterday)

BTS		DTS
= S,R,E izolo	→	E,R, ___ S
		 izolo (yesterday)

(57)(b)(i) \*Abafana ba-ya-dlala nyakenye  
(The boys play long ago)

(ii) \*Abafana ba-dlala nyakenye  
(The boys play long ago)

BTS		DTS
= S,R,E nyakenye	→	E ___ R ___ S
		 nyakenye (long ago)

With sentences in (57a-b) the DTS interprets the event time (E) and the reference point (R) as temporally earlier than the moment of speech which is the S-point. With **izolo** (yesterday) the E and R-points by a time line (\_\_\_). With **nyakenye** (long ago) R is dissociated from E and S is dissociated from R by a time line because **nyakenye** is an adverbial extension of time which combines with the remote past. In other words the modification by **izolo** (yesterday) and **nyakenye** (long ago) a time before the moment of speech (S) has shifted the S-point to the right of the E and R-points in the DTS. The combination of such structures with these adverbs result in ungrammatical sentences. It destroys the BTS order of points and thus violates in particular the second part of the CDTS.

The present time indicates a process or action taking place simultaneously with the coding time i.e. the S,E,R points are regarded as taking place simultaneously. The present tense may also be viewed as meaning coincidence of the time of the situation and the present moment. However, it is relatively rare for a situation to coincide exactly with the present moment, i.e. to occupy literally or in terms of our conception of the situation, a single point in time which is exactly proportionate with the present moment. Situations of this rare type do however, happen or occur, and of course the present tense is an appropriate form to use in locating them temporally. This occurs with performative sentences i.e. sentences where the act described by the sentence is performed by uttering the sentence in question :

(58) Ngithembisa ukukukhokhela amakhulu amabili amarandi  
(I promise to pay you R200,00)

The utterance of this sentence constitutes the promise to pay two hundred rands.

Although these situations are not strictly momentaneous, since it takes a certain period of time to utter even the shortest sentence, they can be conceptualized as momentaneous,



especially in so far as the time occupied by the report is exactly the same as the time occupied by the act, that is, at each point in the utterance of the sentence there is coincidence between the present moment with regard to the utterance and the present moment with regard to the act in question.

The present tense also reveals or reflects another set of examples where there is a literal coincidence between the time location of a situation and the present moment. This is with the simultaneous reports of an ongoing series of events. Thus when a horse-racing commentator says “uBambero weqa umugqa wokugcina” (Bambero crosses the finishing line), his utterance of this sentence coincides, or at least is taken conceptually to coincide with the event of Bambero’s crossing the finishing line; and since the report is simultaneous with the situation being described, there is a literal location of a situation at the present moment in time.

The present tense is also used with habitual aspectual meaning. 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 at all times. Thus in the example “(uSipho uya emsebenzini ngehora lesishiyagalombili zonke izinsuku)” (Sipho goes to work at 8 o’clock everyday) a certain property (viz. going to work at eight o’clock everyday) is assigned to Sipho even if at the moment he happens not to be on his way to work. In other words, the habit does hold at the present moment, and that is why the present tense is in principle an appropriate tense to use in describing this habitual situation.

The present tense in Zulu may denote future time, for example : “Sihamba kusasa” (we are leaving tomorrow); or timeless expressions, for example : “Amakati anemisila” (cats have tails). Hence for the latter statement, the present is sometimes called the non-past tense.

One might conclude by saying that the present tense relates to the moment of speech, i.e. it relates the time or an action to the present moment in time – hence the structure : S,R,E which implies that the speaker’s reference point (R) and the point or moment of speech (S) are to be taken as identical with the point of event (E).

### 3.3.2 The Perfect Tense

The perfect tense may refer to an activity or event taking place today, yesterday or any other time in the past, as long as it does not refer to the present. It could be referred to as a tense form describing an action which has taken place quite recently or at some definite time referred to. It is called immediate past. The perfect has a short and a long form.

#### 3.3.2.1 The form of the Perfect Tense

- a. The perfect tense in Zulu is represented by a suffix **-ile** on the verb if it appears in circumstances which favour the long form of the perfect tense. In those cases where the short form has to appear, a suffix **-e** will appear on the verb. The affix **-ile** has high-low tones, i.e. [-í-lè] while the same tones appear on the suffix **-e** as a high-low tone; i.e. [-ê]. There are exceptions to the two forms above in which the long and short form has the same prefix, but they will always differ in tone.
- b. With [-ile] and [-e] :  
-fund- → fund – ile / fund – e
- c. With verbs ending on –e :  
Zingel - → zingel – e / zingel – e
- d. Verbs on –ul- :  
khumul - → Khumul – e / khumul – e
- e. Verbs ending on –al-  
khathal- → khathel-e / khathel-e
- f. Verbs ending on –an-  
-bon-an → bon-en-e/bon-en-e



- g. Verbs ending on -ath-  
ambath- → ambeth-e/bon-en-e
- h. Passive verbs  
bon-w → bon-iw-e / bon-w-e
- i. Exceptional forms :  
hlal- → hlezi or hleli  
m- → mi  
sho → shilo or shô  
emith- → emithi  
ethwasa → ethwese  
bulawa → bulewe

### 3.3.2.2 The long form of the perfect tense

- a. When no other phrase or clause after the verb :  
With intransitive verbs:

(59) Ngi-jabulile  
(I was happy)

With transitive verbs:

(60) Si-dlile  
(We ate)

With transitive verbs with objectival agreement or a reflexive prefix :

(61) a. Ngi-ba-shayile  
(I hit them)

- b. Ngi-zi-bonile  
(I saw myself)

b. When objectival agreement appears with the object only :

- (62) Ngi-yi-thengile [indlu]  
(I bought a house)

With ditransitive verbs the long form of the perfect tense may also appear if one of the objects is represented by objectival agreement :

- (63) Ngi-ku-nikile [le nto]  
(I gave you this thing)

c. When the activity or event which is designated by the verb is emphasized, the long form may appear with any adverb, locative, phrase, clause or object with its agreement :

- (64) Ba-qedile [ukufunda]  
(They have completed to read)

- (65) Ba-sebenzile edolobheni  
(They have worked in town)

- (66) Ngi-hlanganile [nabo]  
(I have met with them)

- (67) Ngi-ba-bonile [laba bantu] [edolobheni]  
(I have seen these people in town)

- (68) Ba-culile [kahle]  
(They have sang well)



- (69) Si-hambile [izolo]  
(We went away yesterday)

### 3.3.2.3 Short form of the Perfect Tense

- a. With an object of a transitive verb but without its objectival agreement :

- (70) Ngi-fune [amaswidi]  
(I asked for sweets)

- b. If the tense is followed by any adverb, locative, prepositional phrase, clause with or without objectival agreement on condition that the activity or event receives no specific emphasis in its interpretation :

- (71) Ngi-ye esitolo  
(I went to the shop)

- (72) Ba-sebenze [izolo]  
(They worked yesterday)

- (73) Ngi-bone [laba bantu] [engadini]  
(I saw these people in the garden)

- (74) U-ngi-zwe [ngi-cula]?  
(Did you hear me singing)?

- (75) Ngi-zi-bone [kahle]  
(I saw myself well)

- (76) Ngi-fune [ukuthi bafunde]  
(I wanted them to read)

(77) Ngi-fune [ukusebenza]  
(I wanted to work)

c. When any interrogative word appears with a verb :

- (78) (a) U-sebenze [phi]?  
(where did you work)?
- (b) Ni-hlale [kanjani]?  
(How did you stay)?
- (c) Ni-ba-size [kangakanani]?  
(How much did you help them)?
- (d) Ni-gijime [kangaki]?  
(How many times did you run)?
- (e) U-lime [ngani]?  
(With what did you plough)?
- (f) Ni-funde [nini]?  
(When did you read)?
- (g) U-fune [bani]?  
(Whom did you look for)?
- (h) U-fune [ni]?  
(What did you look for)?

With a transitive verb, the object has to be moved when an interrogative word appears, but in such a case the objectival agreement of the object has to appear on the verb.

(79) U-wu-gawule [phi] [lo muthi]?  
(Where did you chop this tree?)



### 3.3.2.4 The interpretation of the long and short forms of the Perfect Tense

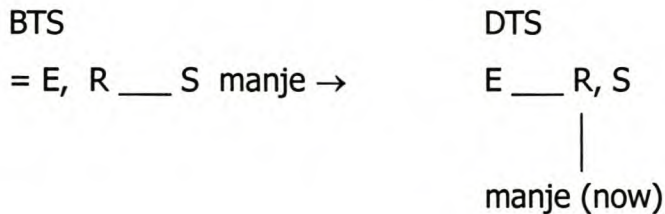
The two forms of the perfect tense are distinguished from each other by the presence of the morphemes (-ile long form and -e the short form). These morphemes do not affect the meaning in the interpretation of time, both may refer to an immediate past in time and also a completed or perfective aspect. The distinction between these two forms of the perfect tense is primarily syntactic in nature and are expressed using different tones.

According to the Reichenbachian theory of tenses, the BTS for the perfect tense in Zulu would reflect the following structure : E, R \_\_\_ S. This indicates or implies that a certain situation, state or processes exists at the moment of speaking, but the event and reference time which produced it, i.e. is responsible for it, took place prior to the time of speaking / reference.

The reading (i.e. E, R \_\_\_ S) further implies that the event time (E) to the left and the reference time (R) are dissociated from the associated S point (which are to the right) by a time line (\_\_\_) which denotes that the event and reference time are temporally interpreted as having taken place earlier than the moment of speech (S). Both the E and R points are interpreted as temporally earlier than the S.

There are adverbials that do not affect the grammaticality of the sentences when used with the perfect tense for instance adverbial extensions such as **manje** (now or right now), **izolo** (yesterday) and **namhlanje** (today). They denote that an action has taken place quite recently. They yield the derived structures shown below :

- (80) (i) Ojele balwile neziboshwa manje  
(The prison wardens have fought with the prisoners now)
- (ii) Ojele balwe neziboshwa manje  
(The prison wardens fought with the prisoners now)



The meaning and form of the sentence structures of the two sentences in (80) are not the same. Sentence (80(i)) uses the perfect in its long form with –ile and sentence structure (80(ii)) appears with the suffix –e, - the short form. See above for an added reference to emphasis in (80(i)).

Although their morphological structures are different, they both indicate actions which took place in the recent past, i.e. immediate past therefore they have the same meaning with reference to time. The event time (E) is dissociated from R (reference point) and (S) moment of speaking which are associated to each other.

**Manje** picks out the speech time and can modify R which is associated with S. The modification by **manje** (now) shifts the moment of speech (S) and the reference point (R) to the right of the event time (E) – giving us the reading : the event is positioned to the leftmost end and is interpreted as temporally earlier than the S and R-points. In other words, this structure (i.e. E \_\_\_ R, S) reveals that the event of the fighting of the prison warden and the prisoners took place in the quite recent past relative to the moment of speech and reference point, which both relate to “now”.

The DTS of both structures are grammatical and does not alter the BTS order of the E, R \_\_\_ S points. Hence both structures have a well-formed DTS. That is, the linear order of points in the DTS is the same as that in the BTS.

- (81) (i) Ojele balwile neziboshwa izolo  
(The prison wardens have fought with the prisoners yesterday)
- (ii) Ojele balwe neziboshwa izolo  
(The prison wardens fought the prisoners yesterday)



BTS

= E, R, \_\_\_ S izolo

DTS

E, R \_\_\_ S

|  
izolo (yesterday)

Sentences in (81) reflect different morphological structures which indicate a concluded action or event with the perfect tense. They both indicate an action in the recent past, which is in this case **izolo** (yesterday).

**Izolo** refers to a time before the moment of speech (S), i.e. the time past relative to the moment of speech. Hence the structure E, R \_\_\_ S as cited above : the event (E) and R – time to the left are interpreted as having temporally taken place earlier than the S – (moment of speech) i.e. in the immediate past. Hence E and R are associated by a time line from the point to the right most end. The modification by **izolo** does not alter the BTS event as in the E, R \_\_\_ S structure.

- (82) (i) Ojele balwile neziboshwa namhlanje  
(The prison wardens have fought with the prisoners today)
- (ii) Ojele balwe neziboshwa namhlanje  
(The prison wardens fought with the prisoners today)

Sentences in (82) have a similar explanation as in (80) where the adverbs 'namhlanje' pick out moments of time that are temporally earlier than the moment of speech (S). they have the following structure :

BTS

= E, R \_\_\_ S namhlanje →

DTS

E, R \_\_\_ S

|  
namhlanje (today)

Both adverbs in the above sentence structure in (82) denote the event of the fight to have taken place recently, which is today or this same night of this day, i.e. today.

Using the adverbials **kusasa** (tomorrow) and **nyakenye** (last year) with the perfect tense result in unacceptable sentences in Zulu. Consider the following examples :

(83) (i) \*Ojele balwile neziboshwa kusasa  
(The prison wardens have fought with the prisoners tomorrow)

(ii) \*Ojele balwe neziboshwa kusasa.  
(The prison wardens fought with the prisoners tomorrow)

BTS  
= E, R \_\_\_ S kusasa

DTS  
S \_\_\_ R, E  
|  
kusasa (tomorrow)

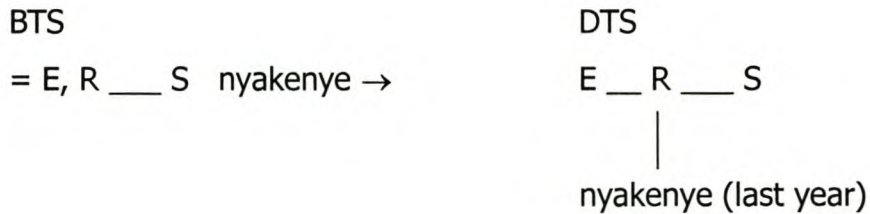
The adverbial extension, viz. **kusasa** (tomorrow) shifts the reference point (R) and event time (E) to the right of the S-point (i.e. moment of speech) in the DTS that is the event (E) which took place in the recent past is shifted to the future position within the same sentence structure. It is associated with the R-point, forming at this end an ungrammatical sentence structure, e.g. \*Ojele balwile / balwe neziboshwa – (which is in the recent past) kusasa (denoting the future).

The latter illustrates that the verb formatives denoting the recent past cannot be used with an adverbial extension denoting future. Hence the DTS of (83) is decidedly odd. It violates the second part of the DTS, which states that the linear order of points in the DTS should be the same as that in the BTS. The modification by **kusasa** (tomorrow) then, has destroyed the BTS by destroying its linear order.

(84) (i) \*Ojele balwile neziboshwa nyakenye  
(The prison wardens have fought with the prisoners last year)



- (ii) \*Ojele balwe neziboshwa nyakenye  
(The prison wardens fought with the prisoners last year)



The temporal interpretation of the above structure is misleading and unacceptable. **Nyakenye** (last year) which is an adverbial extension of time denoting the remote past cannot combine with **-ile** or the variant **-e** of the immediate past.

The combination of such structures with the adverb **nyakenye** therefore results in ungrammatical sentences. It destroys the BTS order of points and thus violates in particular the second part of the CDTS.

According to CDTS the linear order of points must not be destroyed but in the above structure the linear order of the E, R \_\_\_ S points in BTS is not preserved in DTS.

### 3.3.2.5 The perfect tense and aspect

The perfect tense in Zulu may also refer to the Perfective aspect (see chapter 4). There are various issues which have to be taken into account : In the first place, the same form of the perfect tense with [-ile/-e] as above may refer to an immediate past in time, but also to a completed or perfective aspect, e.g. **uhambile**.

In this case, the perfect tense refers to both the past and the perfective aspect. In the second place, there are a few verb stems which clearly distinguish between a past time and a perfective aspect through their form, e.g.

- (85) a. Ulalile  
b. Ulele

In (85a) above the verb stem [-lal-] appears with the perfect morpheme [-ile] and it indicates an immediate past time. In (85b) above, the verb has an exceptional form resulting in [-lele] and this verb only refers to a perfective aspect. In such a case the event structure will refer to a transition.

In the third place, there are certain diagnostics which refer to the perfective aspect only, i.e. the negative and the morpheme **sa**. If the perfective aspect is present without reference to a past time, the negative of the perfect tense will not have the suffix [-anga]:

- (86) a. Ingane a-yi-khal-anga  
b. Ingane a-yi-lele

The verb in (86b) above has only a perfective aspect in its reading because of the absence of the morpheme [-anga] as in the (86a) sentence.

The morpheme **sa** refers to a durative aspect, i.e. an event which is happening up to a particular point in time and which continues at that moment. Thus, the morpheme **sa** may not appear with any verb form which has reference to a past time, but it may appear with a perfect tense form which has reference to a past time, but it may appear with a perfect tense form which has reference to a perfective aspect only, i.e. a verb form which refers to a transition :

- (87) a. \*Ngi-sa-theng-ile  
b. Ngi-sa-lele

In (87a) above the reference is clearly to a past time which is not the case in (87b).

In Zulu the perfect is therefore used in instances where the present relevance of the past situation referred to, is simply one of temporal closeness, i.e. the past situation is very recent :



- (88) a.(i) Bavunile izolo  
(They have reaped yesterday)
- (ii) Bavune amapentshisi izolo  
(they have reaped the peaches yesterday)
- b. (i) Ngivukile ngonyezi ekuseni nje  
(I have woken up very early this morning)
- (ii) Ngivuke ngonyezi ekuseni nje  
(I woke up very early this morning)

### 3.3.3 The Interpretation of the A-past in Zulu

The past tense refers to an action that took place some time ago, which might be past action which occurred today, yesterday and the day before or the remote past, which refers to a situation held as sometime remotely prior to the present moment (often with a specific time mentioned), formed by prefix **-a-**.

- (89) Wasebenza eGoli nyakenye / kudala  
(He worked in Johannesburg last year/long ago)

Often it seems that the use of the A-past tense form also carries the information that the situation no longer holds (see 89 above).

Following the Reichenbachian theory of tenses, this tense will reflect the following structure : "E \_\_\_ R \_\_\_ S" implying that the event or action took place long before the moment of speaking or time of reference given by the speaker.

What characterizes this tense is that the S,R,E points are not interpreted as contemporaneous. Instead they are more dissociated or widespread from one another in the past than in the perfect or present or future tenses.

Sometimes adverbial extensions are used with this tense :

Unyaka odluleyo (last year)

Unyaka owandulele odluleyo (year before last)

Nyakenye (last year)

Mandulo/kudala (long ago)

Ngosuku oluthile (on a certain day)

When comparing the Zulu perfect and the simple A-past as in the following sentences : one can deduce that there is a steady movement backwards in time, which can be interpreted as although both sentences refer to a situation in the past of John's breaking his leg, the first seems closest to the present moment while the last seems most remote from the present moment :

- (90) a. UJohn uphuke umlenze  
(John has broken his leg)
- b. UJohn waphuka umlenze  
(John broke his leg)

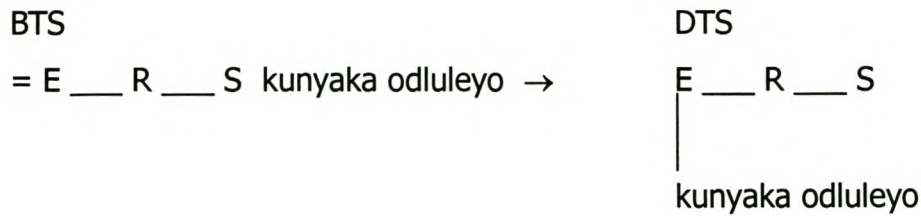
The perfect in (90a) above shows that the past situation has current relevance of the present moment while the A-past in (90b) does not carry this element of meaning (thus one natural interpretation of the perfect in this example is that John's leg is at the moment broken).

As noted above, it is possible for the perfect to co-occur with a time adverbial having present time reference or more accurately having time reference including the present moment :

- (91) a. UNokuzola uhambile manje  
(Nokuzola has now left)
- b. USipho uhambile namhlanje entambama  
(John has left this afternoon)



The use of A-past adverbials cited above will reflect the following structure :

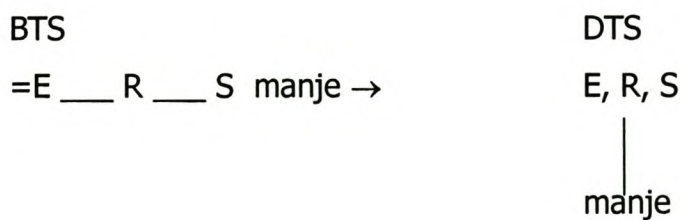


Consider further the following example sentences :

- (92) a. \*Wasebenza eGoli manje  
(He worked in Johannesburg now)
- b. \*Wasebenza eGoli kusasa  
(He worked in Johannesburg tomorrow)
- c. \*Wasebenza eGoli izolo  
(He worked in Johannesburg yesterday)
- d. Wasebenza eGoli nyakenye  
(He worked in Johannesburg last year)

The above adverbial modification will yield the following derived structures :

- (92) a. \*Wasebenza eGoli manje  
(He worked in Johannesburg now)



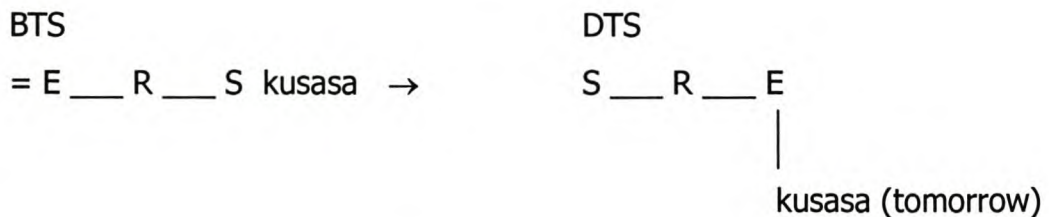
The modification by *manje* (now) moves the point (i.e. E,R,S) together. The E, R, S points are associated and are interpreted as temporal, contemporaneous in the DTS.

The above derived structure violates the first part of the CDTS by associating points (i.e. E,R,S) in the DTS that were not associated (i.e. E \_\_\_ R \_\_\_ S) in the BTS.

As these points are not associated in the BTS (the structure to the left of the arrow) the BTS is not preserved in DTS.

In Zulu the A-past may not be used together with a specification of the time of the present situation, that is, one cannot say "Wasebenza eGoli *manje*" because the specific reference to the point of time "*manje*" (now – denoting the present moment) is incomparable with the Zulu A-Past.

- (92) b. \*Wasebenza eGoli kusasa  
(He worked in Johannesburg tomorrow)



*Kusasa* (tomorrow) moves or shifts the E for event time to the extreme right in the DTS and R for reference point is placed in between the S (for moment of speech) and E points. The adverbial modification by *kusasa* (tomorrow) will violate the linearity constraint by rearranging the BTS linear order of the SRE points in the DTS. The above DTS structure is judged to be unacceptable in Zulu. The DTS arrangement of the SRE points above is contrary to the usual BTS arrangement for A-past which reads as : E \_\_\_ R \_\_\_ S.

The DTS S \_\_\_ R \_\_\_ E arrangement denotes the remote future. Thus the future adverbial extension *kusasa* cannot combine or be used together with the A-past. Hence the sentence is declared to be ungrammatical and unacceptable.



- (92) c. \*Wasebenza eGoli izolo  
(He worked in Johannesburg yesterday)

BTS	DTS
= E __ R __ S izolo →	E, R __ S
	izolo

The adverbial extension izolo (yesterday) (which denotes the immediate or recent past) moves the R (reference point) in DTS to a position associating it with the E (event) to the left. The S-point (moment of speech) to the righthand side is dissociated from two associated E, R points, thus implying that the event (E) and reference (R) points to be temporally earlier than the moment of speech (S).

The above derived structure violates the first part of the CDTs by associating points in DTS (viz. E, R) that were not associated in BTS. Thus in (92c) the DTS to the right of the arrow associates E with R. As E and R are not associated in BTS (the structure to the left of the arrow), BTS is not preserved in DTS :

BTS	DTS
= E __ R __ S izolo	E, R __ S
	izolo

The recent past adverbial extension izolo cannot be used with the remote past tense verb (viz. wasebenza). Hence the ill-formed structure E, R \_\_ S instead of E \_\_ S \_\_ R (as reflected in the BTS)

- (92) d. Wasebenza eGoli nyakenye / kudala  
(He worked in Johannesburg last year / long ago)

BTS = E __ R __ S nyakenye / kudala →	DTS E __ R __ S   nyakenye / kudala (last year / long ago)
------------------------------------------	------------------------------------------------------------------------

The adverbs **nyakenye** and **kudala** pick out moments of time that denote the remote past. The E, R, S points are open to modification. If the appropriate adverb is mapped on these, the DTS will be grammatically well-formed :

BTS = E __ R __ S nyakenye / kudala	DTS E __ R __ S  nyakenye / kudala
----------------------------------------	---------------------------------------------

The modification by nyakenye / kudala, thus yields the basic tense structure for the A-past and do not violate either part of the CDTS. They leave the BTS intact. This means that the DTS in the above structure does not alter the BTS order of the ERS :

BTS = E __ R __ S nyakenye / kudala →	DTS E __ R __ S
------------------------------------------	--------------------

Sentence structures (92a-c) do not have temporal interpretations at all, because their DTS's are ill formed, violating the CDTS.

Thus, the remote past tense or A-past tense places the event (E), reference point (R) and the moment of speaking (S) to a time further removed from the present than the perfect. Hence it combines with adverbial extensions such as : kudala, nyakenye, unyaka owandulela odlulileyo etc.

Note that the A-past tense simply locates the situation in question prior to the present moment and says nothing about whether the past situation occupies just a single point



prior to the present moment, or an extended time period prior to the present moment, or indeed the whole of time up to the present moment, hence its definiteness.

It should also be noted that the use of the A-past tense only locates the situation in the remote past, without saying anything whether that situation continues to the present or into the future, though there is often a conversational implicature that it does not continue to or beyond the present.

### **3.3.4 The Basic Tense Structure (BTS) and the Derived Tense Structure (DTS) of the future tense**

The future tense in Zulu is really a compound tense. Its full form is compounded from the simple present tense of the verb –za (come)/-ya (go to) and a following infinitive. The –za/-ya with the following infinitive prefix –ku may contract to form zoku-/yoku- or zo-/yo-, but very often the ku- is dropped and the verbal stem immediately follows the –za/-ya. Consider the following example sentences :

- (93) a.(i) Ngiza kubiza  
(I come to call, I shall call)  
or  
(ii) Ngiya kubiza  
(I go to call, I shall/will call)
- b.(i) Ngizobiza / Ngiyobiza  
or  
(ii) Ngizokubiza / Ngiyokubiza  
or  
(iii) Ngizambiza / Ngiyambiza  
(I shall/will call him)

Note (93b(iii)) is usually found with an objectival concord. Here we will concern ourselves with the full forms of the future and not the contracted forms.

From the above cited example sentences it can be noted that the two morphemes (i.e. –**za** or –**ya**) which respectively originated from the verbs –**za** (come) and –**ya** (go to) have in fact become affixes indicating distinctively the immediate (i.e. –**za-**) and the remote (i.e. –**ya-**) future forms.

Though these verbs may be used interchangeably, what is important is to remember that semantically (i.e. in meaning) these verbs are not different. –**Ya-** is normally used for emphasis : “Ngi-yakubona” (I shall see); “Ba-ya kungibiza” (They will call me).

They both express that an action or event, process or state will take place at a future time (i.e. tomorrow or later in the future). Hence according to the Reichenbachian schema, the BTS for the future tense will show the structure : S \_\_ R, E implying that the action or event is taking place after the moment of speaking (S) or time of reference given by the speaker.

This reading further implies that the two associated S and R points to the left are interpreted as temporally earlier than the dissociated E-point to the rightmost end which has to take place in the future. Consider the following example sentences :

- (94) a.(i) Abafundi beyunivesithi yaseStellenbosch baza kulivakashela lonke elase Yurophu manje  
(The Stellenbosch university students will tour the whole of Europe now)
- (ii) Abafundi beyunivesithi yaseStellenbosch baya kulivakashela lonke elaseYurophu manje.  
(The Stellenbosch university students will tour the whole of Europe now)
- b.(i) Abafundi beyunivesithi yaseStellenbosch baza kulivakashela lonke elaseYurophu kusasa.  
(The Stellenbosch university students will tour the whole of Europe tomorrow)



- (ii) Abafundi beyunivesithi yaseStellenbosch baya kulivakashela lonke elaseYurophu kusasa.  
(The Stellenbosch university students will tour the whole of Europe tomorrow).
- c.(i) \*Abafundi beyunivesithi yaseStellenbosch baza kulivakashela lonke elaseYurophu izolo.  
(The Stellenbosch university students will tour the whole of Europe yesterday)
- (ii) \*Abafundi beyunivesithi yaseStellenbosch baya kulivakashela lonke elaseYurophu izolo.  
(The Stellenbosch university students will tour the whole of Europe yesterday)
- d.(i) \*Abafundi beyunivesithi yaseStellenbosch baza kulivakashela lonke elaseYurophu nyakenye.  
(The Stellenbosch university students will tour the whole of Europe last year / long ago).
- (ii) \*Abafundi beyunivesithi yaseStellenbosch baya kulivakashela lonke elaseYurophu nuyakenye.  
(The Stellenbosch university students will tour the whole of Europe last year / long ago).

The above example sentences are interpreted on the assumption that the future tense in Zulu has the BTS S \_\_ R, E. These sentences have been modified by **manje** (now), **kusasa** (tomorrow), **izolo** (yesterday), and **nyakenye** (last year). These adverbial modifications (viz. manje, kusasa, izolo, nyakenye) will yield the following derived structures :

(95) a.(i) ... baza kulivakashela ... manje

(... are coming to tour now, i.e. they will tour now – in the immediate future or soon).

BTS

= S \_\_ R, E     manje

DTS

S, R \_\_\_\_ E

|  
manje (now)

(ii) ... baya kulivakashela ... manje

(... are going to tour, i.e. will tour later / then in the near future).

BTS

= S \_\_ R, E     manje

DTS

S, R \_\_\_\_ E

|  
manje (now)

The above sentence structures (i.e. 95a(i) and 95a(ii)) give an indication of not being similar as regards meaning and form in the future tense : Sentence structure (95a(i)) uses the future tense form –za- (denoting immediate future, soon or now) and sentence structure (95a(ii)) appears with ya- (denoting remote or distant future or then or later in the future). This ya- is also normally used for emphasis.

Though these two sentences show different morphological structures, they both indicate actions taking place in the future, and as such they have the same meaning within the DTS :

The moment of speaking (S) (i.e. the coding time) and the reference point (R) are associated to one another and are interpreted as temporally contemporaneous. The S and the R-points are dissociated from the event point (E) by a time line (-) : Hence S, R \_\_\_\_ E. Both the S and the R are interpreted as taking place now (i.e. at the moment of speech) prior to the event time (E) – where the latter has still to take place in the future. The student tour is interpreted as occurring very soon after the moment of speech.





rightmost R-and E-points are dissociated from the leftmost associated S-point by a time line.

Put differently, the adverbial modification **kusasa** places the event time (E) and R-time to the extreme right of the S-point (occupying leftmost) in the DTS-giving us the interpretation of the S-point having taken place temporally earlier than the R- and E-points (i.e. event of the tour) which is scheduled to take place in the near or distant future – which is **kusasa** (the day after today) which is still coming.

This gives a well-formed structure. The DTS has not changed the BTS :

BTS		DTS
= S __ R, E	kusasa →	S __ R, E

Such structures as the above are, according to the CDTS acceptable. The CDTS permits this because the linear order of the points in DTS, as cited above are the same as that in BTS (see above structure). Secondly, no points are associated in DTS that are not associated in BTS, i.e. the S, R-points : in BTS and DTS the linear order is the same (see above).

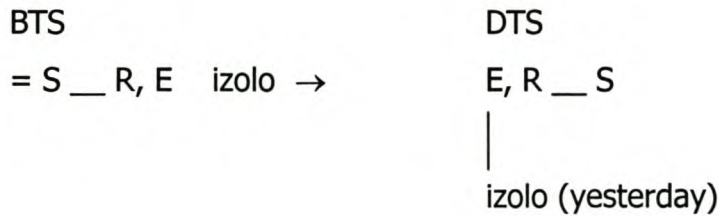
**Kusasa** and **manje** locate the “event time of the students’ tour” subsequent to the utterance (i.e. moment of speech) time and reference point.

(95) c.(i) \*... baza kulivakashela ... izolo  
(are going to tour ... yesterday, i.e. they will tour ... yesterday).

BTS		DTS
= S __ R, E	izolo →	E, R __ S
		izolo (yesterday)



- (ii) \* ... baya kulivakashela ... izolo  
 (... will tour the whole of Europe yesterday)



Note, in the case of the above structures (i.e. (95c(i) and (ii)) the CDTS is violated. The DTS of the above sentence structures interprets the time at which the speaker asserts the event (i.e. E) as temporally earlier, i.e. **izolo** (yesterday) than the moment of speaking and reference point.

**Izolo** (yesterday) is interpreted as the day before the moment of speech and the temporal standpoint from which the speaker invites his audience to consider the occurrence of the vent (i.e R-point).

The modification by **izolo** maps onto E, which, it has shifted to the left of the associated S, R-points (on the rightmost end) in the DTS :

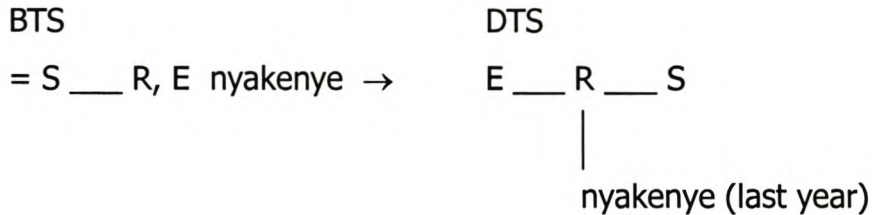
E, R \_\_ S    instead of S \_\_ R, E

This forms an odd structure, i.e. an ill-formed sentence structure. The linear order of the S, R, E points in the DTS on the right has been altered from the BTS order shown on the left.

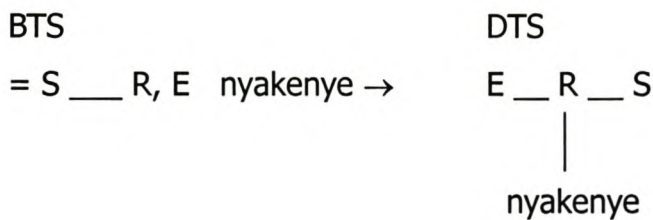
The combination of such structures with the adverb **izolo** or **nyakenye** or **kudala**, therefore results in ungrammatical sentences. In other words, the future formatives **-za-** and **-ya-** cannot combine with the above underlined adverbial extensions denoting the past. They destroy the BTS order of points and thus violate in particular the second part of the CDTS.

Only adverbial extensions, such as **manje**, **kusasa**, **ngomhlomunye**, **unyaka ozayo**, can combine with sentences denoting future :

- (95) d. (i) \*... baza kulivakashela ... nyakenye  
(... will tour ... last year)



- (ii) \* ... bayakulivakashela ... nyakenye  
(... will tour ... last year)



The adverbial extension nyakenye (denoting the past) cannot be used with the future formatives **-za-** or **-ya-**, otherwise an ungrammatical sentence structure results – which will not be accepted or conform to a grammar of standard Zulu (see the structures (95c,d above)).

The future tense can be defined as locating a situation at a time subsequent to the present moment, i.e. to the right of the present moment on the diagram of the time line. Compare the following figure :





The future tense is meant to indicate any action or event which might take place after the moment of speaking or time of reference given by the speaker :

- (96) Baza(ya) kuhamba uma beqedile  
(They will leave when they have finished)

It should be noted that the so-called future tense (be it in Zulu or other languages which have tense) make a clear prediction about some future state of affairs, and it is in this way clearly distinct from modal constructions that make reference to alternative worlds. Thus 'kuza kuna kusasa' (It will rain tomorrow) is a very definite statement about a state of affairs to hold at a certain time subsequent to the present moment and its truth can be tested at that future time by seeing whether it does in fact rain or not.

This can be contrasted with "kunganetha kusasa" (It may rain tomorrow) which is simply a claim about a possible world in which there is rain tomorrow; the truth value of this statement cannot be assessed by observing whether or not it rains tomorrow (since both presence and absence of rain are compatible with – may rain ("kugana")). – indeed evaluation of such a modal statement is extremely difficult involving demonstrating the existence or non-existence of a certain possible world which may not coincide with the actual world.

The future tense can also be interpreted as meaning "Present tense". That is in many languages Zulu inclusive, the so-called "Present tense" is in fact the normal verb form used to indicate future time reference such as "Ngiya/za kuhamba kusasa" or "Ngihamba kusasa" (I will go (literally : I go) tomorrow).

With regards to the latter paragraph, Smith (1969:356) writes :

"In this analysis future is indicated by the combination of present and future adverbial ..."

In main clauses, there is a heavy constraint on the use of the present tense with future time reference, viz., that the time referred to must be one that is scheduled. For example



in "Isitimela sisuka ngensimbi yesihlanu kusasa ekuseni" (The train departs at five o'clock tomorrow morning) the use of the present is justified because the situation referred to is indeed one that is scheduled. Hence the structure :



With the future tense, then, the speaker's point of speech and reference is now whilst the dissociated E-point (i.e. event time of the action) is interpreted as occurring later, i.e. in the immediate or remote future.

With regard to a future time nothing can be asserted but mere sub-positions and surmises (with regard to the present tense).

### 3.4 SUMMARY

Considering the facts given in this chapter, it may be concluded that the Zulu language also falls inline with other languages as discussed by the two linguists included in the beginning of the chapter in its expression of tense. The Reichenbachian Theory of Tense also form the basis in its expression. The Zulu tenses can also be represented by E, R, and S. E designating the event time, S the moment of speech and R the reference time. The relationship between S and R constitutes the primary tense relation R is then related to E. The link between S and E is derivative depending on the relation between these other two links.

Tense in Zulu is expressed through the following features: present, perfect, past and future. With the present tense we distinguish between two forms, viz. the short present tense and the long present tense. The distinction between these two forms of the present tense is only concerned with the presence of the morpheme [-ya-]. This morpheme does not directly contribute to any difference in the meaning of the present tense with regard to its interpretation of time. The distinction is primarily syntactic in nature and secondary



only with regard to the semantic feature of emphasis. With regard to Reichenbachian theory of tense the BTS for the present tense in Zulu has the structure S, R, E and it implies that the action which takes place is interpreted as temporally contemporaneous.

The perfect tense is represented by a suffix **-ile** which indicates the long form and a suffix **-e** representing the short form. These morphemes do not affect the meaning in the interpretation of time. Both may refer to an immediate past in time and also a completed or perfective aspect. The distinction between these two forms of the perfect tense is primarily syntactic in nature and is expressed using different tones. According to the Reichenbachian theory of tense, the BTS for the perfect tense in Zulu reflect the following structure E, R\_ S. This indicates that a certain situation, state or processes exist at the moment of speaking but the event and reference time which produced it, took place prior to the time of speaking/ reference. The perfect tense in Zulu may also refer to the perfective aspect (see chapter 4)

The past tense is formed by prefix **-a-** and it carries the information that the situation no longer holds. Following the Reichenbachian theory of tenses this tense reflect the following structure E\_R\_S implying that the event or action took place long before the moment of speaking or time of reference given by the speaker.

The future tense in Zulu is a compound tense of the verb, compounded from the simple present tense of the verb **-za/ -ya** and a following infinitive **-ku** and may contract to form **zoku-/ yoku-** or **zo-/ yo-**. According to the Reichenbachian schema, the BTS for the future tense will show the structure S\_R, E implying that the action or event is taking place after the moment of speaking or time of or time of reference given by the speaker.

All these four tenses can be modified by temporal adverbs in formation of the DTS. Not all the temporal adverbials associated with these tenses yield acceptable sentences when the linear order of points in the DTS is the same as that in BTS.



## **CHAPTER 4**

### **4. ASPECT IN ZULU**

#### **4.1 INTRODUCTION**

Aspect in Zulu can be expressed in various forms. This chapter will examine the particular route followed in Zulu when expressing aspect. The aspect will be investigated within the theories of Comrie (1976), Bybee *et al* (1994) Filip (1993) Dahl (1985) Bertinetto and Delfitto (2000), Smith (1991) and Bhat (1999). To begin with an overview on their various theories on aspect will be considered. Section 2 will consist of a brief discussion of these theories.

Section 3 will focus on the main points of aspect as expressed by different linguists and established in the Zulu language. The focus will be on those features of aspect which are recognizable in Zulu. The types of aspect and different concepts used in its expression will be defined, i.e. concepts such as imperfective, perfective, resultative, duration and habitual.

The appearance of the aspect imperfective and perfective within syntax will also be looked at. Both the perfective and imperfective will be dealt with in relation to the indicative, relative and participial clauses. The role played by the present, perfect, past and future tenses will be dealt with in view of how they feature in perfective and imperfective aspect. Rules that are formed with regard to aspect will be identified. Also in this section the complements and meaning of deficient verbs will be investigated. Types of moods which feature here will be included in the discussion.

#### **4.2 OVERVIEW OF ASPECT IN THE LITERATURE**

Different linguists have developed various theories in their explanation of aspect. An overview of their various theories will be considered below :



### 4.2.1 Comrie (1976)

According to Comrie (1976) the perfective and imperfective are interpreted in the following manner : With perfective the situation is viewed as a single whole without looking at the various separate phases that make up that situation, whilst with the imperfective the focus is on the internal structure of the situation. The following discussion will look at the distinction in detail.

#### Perfective

Perfective forms indicate situations of short duration. Perfectivity has the following characteristics : Firstly it reflects a completed action with beginning, middle and end, all parts of the situation are presented as a single whole. The indication of end of a situation is one of the possible meanings of perfective form but does not reflect the completion of a situation. The perfective indicates a situation which has an end, which has terminated.

Secondly the perfective indicates the successful completion of a situation, it defines some results of an action : consider this sentence :

(1) I succeeded in persuading him.

Comrie (1976:21) points out that the term 'resultative' like the term 'completed' puts unnecessary emphasis on the final stage of the situation rather than on its totality.

Finally perfective represents the action pure and simple, without any additional overtones, hence perfectives are the unmarked members of any aspectual opposition based on perfectivity.

#### Perfectivity and other aspectual values

Perfective forms can be used for situations that are internally complex for instance those that last for a considerable period of time, or those including a number of distinct internal phases or condition that the whole of the situation is subsumed as a single whole. Such

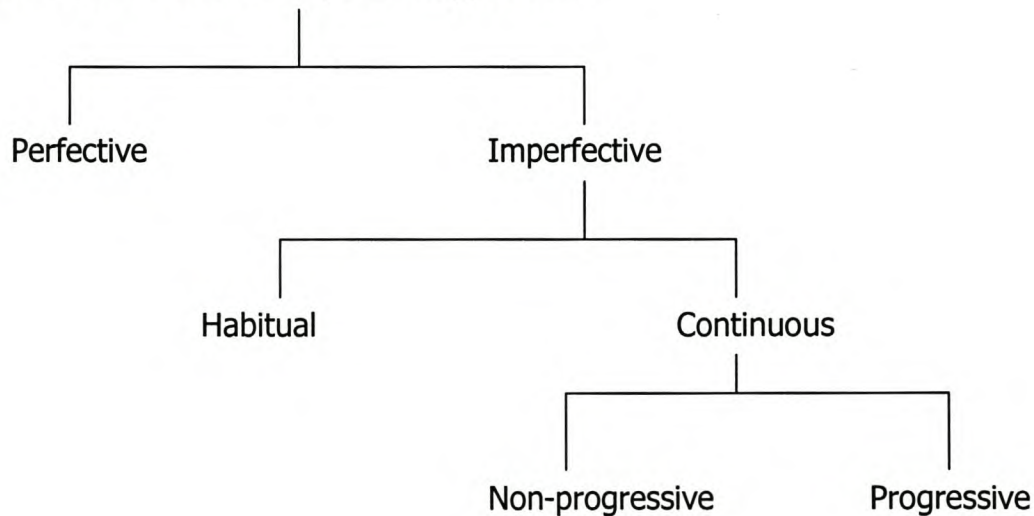
reference can be made explicitly by means such as lexical meaning of the verb involved, other aspectual oppositions or other facets of the context.

## Imperfective

The imperfective refers explicitly to the internal structure of a situation, it views the situation from within. However, imperfectivity is not incompatible with perfectivity, both can be expressed if the language in question possesses the formal means to do so.

Some languages have a single category to express imperfectivity whilst in others imperfectivity is subdivided into a number of distinct categories. There are also those in which only the part corresponds to the meaning of imperfectivity. The subdivision of imperfectivity may be represented in the following table 1.

TABLE 1 : Classification of aspectual oppositions



Imperfective forms cannot be used to refer to situations lacking internal structure.

## Habitual

According to Comrie (1976:27) habitual describes a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as



an incidental property of the moment but precisely as a characteristic feature of a whole period.

Habituals may be iterative but the mere repetition of a situation does not warrant that a situation be referred to as specifically habitual.

The characteristics of what features constitute a habitual is conceptual and not linguistic and should not record accidental situations for example, "when Sally used to throw stones at my window in the morning". If she did that two or three times only, the sentence is inappropriate while it is appropriate if over a period of several years she threw stones at my window every morning.

### **Habitual and other aspectual values**

Comrie (1976:30) says the habitual can combine other semantic aspectual values, especially those which are appropriate to the kind of situation that is prolonged or iterated. For example it can be combined with progressive aspect as in the following sentence :

(2) When I visited John he used to be reciting his latest poems.

The sentence implies that everytime I visited John, he was engaged in reciting his poetry.

### **Progressive**

Languages have different forms of expressing progressive. In some languages the use of progressive and non-progressive form is obligatory in expressing the distinction between progressive and non-progressive. Whereas with others the use of the specifically progressive form is optional.

Progressiveness is similar to continuousness and can be defined as imperfectivity that is not occasioned by habitually, it differs from imperfective as a whole because imperfective also includes habituality. A situation can be described as progressive being habitual.



Progressiveness can be seen as the combination of progressive meaning and non-stative meaning. Stative verbs do not have progressive forms.

#### **4.2.2 Bybee, Perkins and Pagliuca (1994)**

This article examines the lexical source in the development of pasts and perfectives. This involves completives, resultatives and anteriors.

The development of stative and dynamic verbs into past and perfective is studied. Auxiliaries from stative verbs go through a resultative stage while auxiliaries for dynamic verbs go through a stage of signaling completive or anterior before becoming past or perfective. The question is how do the pasts and perfectives differ from one another because they develop from the same sources and have a similar semantic content. It seems they differ from one another, and the way they interact with imperfective and with semantic classes of verbs.

According to Bybee, Perkins and Pagliuca (1994:51) the interpretation of a particular gram as past or perfective depends on whether the language in which it occurs has an imperfective or whether the gram contrast with the imperfective in which case it is a past. In some case the interaction with stative predicates distinguishes past from perfectives.

The early stage of semantic development is represented by the completives and anteriors which have no other uses and the later stages is represented by anteriors with other uses and perfectives and past. The semantically later uses are expressed by grams that have more reduced phonological and morphological form.

Bybee *et al* (1994:55) have their own definitions on the meaning expressed by grams for tense and aspect which is not based on current literature of Comrie (1976:1985b); and Dahl (1985).

Completive is defined as to do something thoroughly and to completion like in 'eat up'. Completives can be classified into three sorts as described by Bybee *et al* (1994:57).



- (i) The action totally affects the object which is consumed or destroyed by the action.
- (ii) The action involves either the plural subject of intransitive verbs or object of transitive verb, e.g. everyone died or he took all the stores.
- (iii) The action is reported with some emphasis or surprise value.

With completives an event or process has been accomplished; complete affects the object totally for example the verb 'bury'.

Anteriors – signal that the situation occurs prior to reference time and is relevant to the situation at reference time. They may occur with past or future tense marking. The common definition of anteriors as agreed upon by different linguists such as Comrie (1976); Anderson (1982); Givon (1982) and others refers to a past action with current relevance. English has a good example of anterior, e.g.

- (3) Carol has taken statistics (so she can help us).

The goal of the utterance is not to locate a situation at some definite point in the past but only to offer it as relevant to the current moment. Hence it cannot occur with temporal adverbs that indicate a specific time in the past.

Resultatives – indicate that a state exists as a result of a past action, they apply to intransitive verb and are compatible with the adverb still and used only with telic verbs. Some actions committed in the past result into a particular state. The resultative indicates that the state persist at reference time as illustrated by the following sentence :

- (4) He has gone and come back already.

Perfectives – with perfectives the situation is viewed as bounded temporally. The event is reported for its own sake independent of its relevance to other situations. It refers to situations that occurred in the past. It is restricted to the past events.



Past – indicates a situation which occurred before the moment of speech. The past resembles a perfective, a tense of the past events. Past tense meaning can be divided into a specific degree of remoteness from the moment of speech.

Situation – refers to a broad term for the action or state described by the lexical predicate. Predicates are divided into types according to the kind of situation they describe.

Stative predicate – describes a situation which will not change and continue unless something happens to change it, e.g. to know, want, be tall, be ripe.

Dynamic – describes a situation which involves some sort of change, e.g. write, walk, sneeze, ripen. The dynamic situation can distinguish telic from atelic – a telic situation has a built-in end point, e.g. 'play a sonata' whilst an atelic situation does not as in 'play a piano'.

Process verb – is a dynamic verb describing a change of state, e.g. grow, improve, ripen.

According to Bybee *et al* (1994:55) information about lexical sources can be found in the completives, resultatives and anterior where about half the grams coded had indication concerning lexical sources. Completives, resultatives and anteriors develop into past and perfectives. However, with the past and perfective only one fifth of the cases can have their lexical sources identified.

Stative auxiliaries combine with a form of the main verb that indicates past or past participle or the perfective verb form that is their source construction. Dynamic verbs such as to finish, to be finished, ready, complete serve as a source of completives or anteriors depending on the language.

Movement verbs such as come, come from, get up are also sources of anteriors in some languages. Stative auxiliaries are sources for resultatives and anteriors but not for completives which have dynamic verb sources.



### 4.2.3 Filip (1993)

According to Filip (1993) aspect is divided into perfective and imperfective, these are expressed by some morpheme on the verb or by a special periphrastic verb construction. The imperfective is also divided into progressive and non-progressive. Aspect is conveyed through verbs, nouns or various construction with a locative and partive origin. The category aspect features on-going situations and result, and these categories have extreme meaning. In some languages they are characterized by verb morphology and in others they are marked by verb affixes.

Filip (1993) uses the term on-going situation for imperfective and result for perfective. The ongoing situation has the following properties : part of relation, extension along the temporal axis, dynamicity, temporary situation which changes and the situation being expressed without regard of its boundaries. The result situation is characterised by the following properties : whole of a relation, limited duration and completed transition from one state to another.

Aspect also interacts with telicity in sentence semantics in a systematic way and the aspect must give an adequate description for this systematic interaction.

The progressive as one type of the imperfective has a character of partivity in the temporal domain and the progressive operator relates situations to their proper parts. It describes a part of a situation, it disregards its beginning or outcome for example in sentence "Irv was building a cabin in Scotia last August", it is immaterial whether the building of a cabin was never completed.

Stative predicates do not usually occur in the progressive. The perfective sentence presents a situation as a single whole, it projects a sense of completeness and resultative.

Filip (1993:244) says the formal expression of aspectual system differs across languages. Languages can be classified into four main groups along the following parameter.



- (i) encoding by means of a special morpheme (synthetic means) or a grammatical (syntactic or analytic means).
- (ii) Verb-centered or noun-centered encoding of the aspectual distinction.

A prefix added to an imperfective verb can change it to a perfective one, but it can also change its meaning. Aspect can be expressed by a marker on the verb, or a periphrastic verbal construction. It may also be expressed by a case marking on the noun or by a prepositional case marking on an NP.

#### **4.2.4 Dahl (1985)**

Dahl (1985:69) discusses some categories which fall under the heading aspect citing perfective, imperfective and the group of categories treated under the heading 'Habituals and generics'.

#### **The opposition PERFECTIVE : IMPERFECTIVE (PFV : IPFV)**

Dahl (1985:72) is of the opinion that PFV:IPFV have no clear marking relation in most languages. It differs from most other cross-linguistic TMA categories by not having very clear marking relation. In the case of PFV : IPFV, even in individual language, one cannot choose one member of the opposition as being clearly unmarked. Hence Dahl (1985:72) treats PFV : IPFV as an equipollent opposition in the sense of European structuralism and his view differs from that one of Friedrich (1974). He further points out that the difficulty of deciding which members of the opposition is marked and which is unmarked is connected with the tendency for PFV : IPFV to be realised by less straightforward morphological processes and not by affixation or by periphrastic construction semantics of PFV : IPFV.

The semantics that underlies the opposition of perfective : imperfective is described as follows by Comrie (1979:16) as quoted by Dahl (1985:74) :



perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up the situation while the imperfective pays essential attention to the internal structure of the situation.

A PFV verb denotes a single event, seen as a whole with well-defined result or end-state located in the past. The event reflects the transition from one state to its opposition and the duration is disregarded.

In most instances perfective is restricted to past tense and that makes it differ from the imperfective which can also take the other tenses. The perfective is restricted to past time reference but the use of Past tense applies both to PFV and IPFV. The Slavic language differ by having both Perfective and imperfective verbs have Past and non Past forms but the periphrastic future can only be used with imperfective verbs. The past tense of the perfective denotes that somebody finished the action but the past tense of the imperfective means somebody started to do the action but did not finish it.

### **The Progressive (PROG)**

Most languages do have progressive in their grammatical structures. Progressive is an ongoing activity in a certain time and cannot be used for stative constructions. It is normally used only for dynamic ones. Its context is imperfective. Progressive is independent of time reference, it is used in present past and the future. It is consistently marked periphrastically. It is related to IPFV, a category can shift from IPFV to PROG or visa versa.

### **The conclusive (CONCL)**

The conclusive has a meaning of to finish doing something.

### **Habituals and generics**

Habitual expresses actions that take place repeatedly – which are performed again and again. Habituals have a number of closely related categories which are labeled as HAB,

HABS and HABPAST. A term common applied to HAB category is 'iterative'. For instance the HAB category is expressed by means of adverbs such as usually. HAB denotes that what is expressed in the sentence took place in the majority of occasions which might consist of the intervals. Consider the following example :

(5) Q. What you brother usually do after breakfast?

A. He writes letters

### **The Perfect (PFCT)**

The perfect refers to a present state as being the result of some past situation. With the perfect there is more focus on the event than on the state. Everything that is caused by an event may be said to be the result of that event. The perfect has the following categories which are closely related to it, i.e. the experiential (EXPER), the pluperfect (PLPFCT) and also the category QUOT a primarily modal category which does not fit in very well anywhere else.

The experiential is used to indicate that a certain type of an event took place at a certain period up to a certain point in time. The use of the experiential overlaps with the perfect. Mostly the distribution of the EXPER is really included in the distribution of PFCT.

In English pluperfect would be described as a combination of two categories past and perfect such as in sentence 'John had run'. Pluperfect is treated as a separate but not independent category for the following reasons :

- Some languages which do not have separate PFCT category but still have a pluperfect.
- Pluperfect may develop secondary characteristics which are not found in PFCT and it tends to be used for referring to remote past.

In some languages there are less constraint when used with definite time adverbs in the pluperfect than in the present perfect.



With the quotative category the two cases of morphological and periphrastic are found. In most languages the PFCT carries the function of QUOT. This variety of PFCT is referred to as PFCT. The QUOT marking is most common with past time reference.

Semantically the QUOT indicates that the speaker has not experienced himself what he is reporting in the sentence but he has heard it from a secondary source mostly being a verbal report of some other person and the speaker has not seen himself.

#### **4.2.5 Bertinetto and Delfitto (2000)**

##### **Terminological matters**

With this paper, Bertinetto and Delfitto (2000:187) aims at highlighting the fact that 'aspect' and 'Aktionsart' must be carefully distinguished and defined. Their approach to this matter of tense and aspect is based on Bertinetto (1986) and Comrie (1976:1985). They believe that the basic opposition perfective / imperfective belongs to the domain of actionality rather than aspect proper although it is intricately interrelated with the latter. They classified tense and aspect into three main subdomains :

##### **Temporal reference**

Temporal reference refers to the confining of the event to the speech point. A distinction is made between the past, present and future temporal reference. This is achieved by means of grammatical devices, i.e. tense.

##### **Aspect**

Aspect refers to the detailed and precise perspective taken by the speakers / writer. The event may be considered from a 'global' or a 'partial' point of view. This forms the basis for the fundamental distinction between 'perfective' and 'imperfective' aspect. These two compartments have a clear cut distinction from each other. Aspect is unchangeable, expressed means of grammatical devices.



## Actionality

Actionality refers to types of events which are classified into four classes that is states, activities, accomplishment and achievement. Actionality is rooted in the lexicon.

All tenses consist of both temporal and aspectual properties manifested in different forms according to the language considered. Tense refers to specific morphological coalescence which have developed in each particular language.

These categories actional and aspectual may not be separated in all instances. There are times in tense-aspect system where there are interchanging of notions belonging to conceptual domains for example the imperfective paradox where the [+telic] + [+perfective] interacts. It does happen that two features which are expressed independently of each other in one language are fused together in another language.

Telic or atelic events may be viewed from a perfective or an imperfective point of view. The telic predicates fulfill their inherent character only in perfective situations.

## Design of the analysis

Temporal adverbials provide a test for assessing aspectual values. Bertinetto and Delfitto (2000:194) are of the opinion that they enable us to differentiate clearly between aspect and actionality. The dichotomy [+telic] is a typical actional discrimination and the dichotomy [+terminative] is an aspectual discrimination. These two oppositions behave as two completely independent variables. Although the [+telic] is not the only relevant feature for actional classification, it is crucial in natural languages for it discriminates two major classes 'achievements' + 'accomplishment' vs. 'activities' + 'states'.

The various types of adverbials are differentiated by the use of the following convention : X-Time stands for any quantified unit of time for example two hours, five years : 'tx' and 'ty' stands for different instants of time. With this study the adverbials are grouped into four types and specific difference within each type is specified. They are based on morphological shape that these adverbials take in languages such as English and Italian but they tend to maintain semantic behaviour cross linguistically.



- I "until tx", "from tx to ty", "since tx"
- II "in X Time", "for X Time", It. "da X Tempo"
- III already, still
- IV gradually, little by little

## **Durative temporal adverbials, and their aspectual and actional values**

### **Type I adverbials**

This durative adverbial is actional, atelic and aspectual terminative. Accomplishments used with telic verbs lose their telic character unless telicity is inseparable from the very nature of the verb and it results in an ungrammatical sentence. Achievements too are also incompatible with until tx because of their basically non-durative nature. This adverbial refers to the single occurrence which is terminative. Consider this sentence :

- (6) Mary danced until midnight.

### **From tx to ty**

English sentences tolerate non-terminative sentences. For example :

- (7) Mary was dancing from 10pm to midnight.

### **Since tx**

This adverb is used with non-terminative sentences. The following sentence illustrates that :

- (8) Mary has been dancing since noon.

## Type II adverbials

### In X Time

This type is characterised by the presence of quantified units of time, e.g. in one hour, in six weeks, in three weeks. This demands telic verbs and is associated with the terminative aspect only, as can be illustrated by the following sentence :

(9) Mary painted the wall in two hours.

This adverbial type prefers terminative context.

### For X Time

The X Time adverbials are atelic and terminative. For example :

(10) Mary danced for two hours.

## Type III adverbials

### Already

All the possible actional and aspectual types do agree to combine with the adverb already and give different meanings. The following sentences illustrate that :

- (11) a.    /=atelic, terminative/  
           Mary already danced the polka  
           [i.e. some other time in the past]
- b.    /=atelic, nonterminative/  
           Mary was already dancing the polka, when I came.
- c.    /=telic, terminative/



Mary already painted this wall.

[i.e. some other time in the past]

d. /≠detelicized, nonterminative/

Mary was already painting this wall, when I came.

With (11d) the detelicization occurring there is the product of the progressive aspect because the adverb is not incompatible with telic verbs. Although already may be used in conjunction with both aspectual value the meaning in (11a) and (11c) must be regarded as derived ones available in particular context.

## Still

This adverb does not combine with terminative tenses and it is indifferent to be actional values. Consider the following sentences :

(12) a. /≠atelic, terminative/

\*Mary still danced the polka, before leaving.

[i.e. again]

b. /≠atelic, nonterminative/

Mary was still dancing the polka, when I came.

c. /≠telic, terminative/

\*Mary still painted this wall before leaving.

[i.e. again]

d. /≠detelicized, nonterminative/

Mary was still painting this wall when I came.

## Type IV adverbials

This type of adverbials is characterised by adverbials of graduality, i.e (gradually, little by little and the like) and they treat aspectual properties as two independent parameters. They admit both major aspectual values but they are restricted to telic predicates. They are unaffected by aspectual values like still and already and are unaffected by the feature ( $\pm$ telic). This is illustrated by the following examples :

- (13) a. /= $\text{atelic}$ , terminative/  
\*Mary danced gradually.
- b. /= $\text{atelic}$ , nonterminative/  
\*Mary was dancing gradually.
- c. /= $\text{telic}$ , terminative/  
Mary painted the wall gradually.
- d. /= $\text{telic}$ , nonterminative/  
Mary was painting the wall gradually.

### 4.2.6 Smith (1997)

#### Semantic Information and Aspectual Viewpoints

Smith (1997) says the situation type information is not visible without a viewpoint, hence all sentences should have a viewpoint as required by the two-component theory. This theory also requires that sentences with no explicit aspectual morpheme must have an aspectual viewpoint.

#### Visibility : the aspectual information conveyed by a sentence

Visibility is the reflection of the information about an event as conveyed by a particular sentence to a receiver. This visible information is conventional and cannot be changed or



cancelled. Perfective viewpoint focuses on the entire situation including its endpoints whilst imperfective viewpoint has its focus on an interval that excludes endpoints. With the neutral viewpoint the initial point and at least one stage of a situation is included.

Semantic tests are conducted when analysing aspectual viewpoints to attain meanings that are conventionally conveyed.

### **Semantic test for visible information**

There are several tests which can be used to investigate aspectual meaning of a sentence. Firstly, the conjunction test is used to test whether an aspectual viewpoint is open or closed in a given sentence. Open situations are compatible with the assertion that the situation continues or was terminated without completion. Consider the following examples :

- (14) a. Mary was walking to school but she didn't actually get there.  
b. Mary was walking to school and she's still walking.

The conjunction in sentence (14a,b) shows that the imperfective viewpoint does not entail that Mary actually completed her walk to school. The final endpoint of the event is not visible.

With perfective viewpoint, the assertion of continuation and incompleteness does not agree with the inclusion of conjunction, it results in unacceptable sentences because the perfective presents a closed situation. Consider the following examples :

- (15) a. \*Mary walked to school but she didn't actually get there.  
b. \*Mary walked to school and she's still walking.

Semantic properties of aspectual viewpoint can also be reflected by sentences with temporal clauses. Smith (1997:64) points out that before- and after- clauses require a sequential interpretation, they are diagnostic context for whether the final endpoint of a

situation is semantically visible in a sentence. The main clauses in such sentences must indicate a closed viewpoint.

The conjunction when does not impose a particular temporal relation on situations. The situation may be reflected as simultaneous, overlapping or successive and that depends on viewpoint and situation type. Sentences in (16) will illustrate this :

- (16) a. Mary was swimming when the bell rang.  
b. Mary swam when the bell rang.

The imperfective viewpoint does not include endpoint semantically, hence in (16a) the main clause shows that an event was in progress, i.e. swimming when the bell rang. With (16b) the perfective clause initiates the beginning of the swimming event.

Questions can be used as tests that delimit the semantic meaning of a sentence. Sentences with open situation have questions about continuation as reasonable, but closed situations present questions as not reasonable. For example :

- (17) a. Martin walked to school  
b. Martin was walking to school  
c. Did he get there?

### **Perfective viewpoint**

The perfective viewpoint is characterised by sentences which present a situation as a whole and this includes the initial and final endpoints of the situation which is closed informationally. The perfective does not have the character of continuity and does not apply to stative situations. The perfective sentences present events as closed with initial and final endpoints, events can also be terminated or completed depending on the situation type of the sentences. These can be illustrated through the following non-stative sentences :

- (18) a. Lily swam in the pond (Activity)



- b. Mrs. Ramsey wrote a letter (Accomplishment)
- c. Mrs. Ramsey reached the lighthouse (Achievement)

### **Perfective and Statives**

According to Universal Grammar the perfective does not apply to statives because it includes the endpoints of a situation. The relation between statives and perfective viewpoint can be classified into three issues :

- the perfective includes changes into and out of a state and thus applies to stative sentences (french)
- the perfective excluding the endpoints of states, departing from the canonical structure by presenting open stative situation (English)
- the perfective does not apply to statives at all (Russian, Chinese, Navajo).

### **Punctual**

With perfective viewpoint, the situation is presented as punctual, this is due to the closed nature of the perfective presentation. A punctual situation is a simple, closed structure which appears at a point of time. The situations are presented as punctual by the perfective linguistically irrespective of the fact whether they do have the internal structure or whether or not they actually take time. Punctual interpretation becomes strong where duration does not feature in a sentence.

### **Imperfective**

Smith (1997:73) cites the following, sentences with imperfective viewpoint where it presents a part of a situation which has no information about its endpoints; thus they are open informationally. Unmarked imperfectives span an interval that is internal to the situation, whilst marked imperfectives span the preliminary stage of events or the resultant stages of telic events. The imperfective can be divided into general imperfective and the progressive with the former focussing on intervals of all situation types and the

latter to the non-statives. This viewpoint applies to sentences of all situation types with internal stages as illustrated by :

- (19) a. The sea was calm (stative)  
b. The child was crying (activity)  
c. They were building a cabin (accomplishment)

### **Progressive**

The focus of the progressive is on the internal stages of non-stative events. Dahl (1985:92) cites the fact that the progressive tends to appear in all tenses if a language has tense. Whilst the imperfective tend to be limited to past tense, progressive is associated with dynamism. These events involve activity and change.

### **Preliminary Stages**

With languages where the imperfective focus on preliminary stages, the temporal schema for the Achievement situation type includes the preliminary stages. Durative events also have a preliminary form.

### **Resultative Imperfective**

With this aspect a state that follows the final point of a telic event is presented by the resultative imperfective. The focus of such viewpoints is on the interval after the change of state. Smith (1997:76) points out that resultatives present a state via the event that brings it about : the lexical span of the verb constellation includes a change of state.

### **Ambiguous**

Transitivity and morphological factors can lead to a sentence which is ambiguous between eventive and a resultative reading. With transitivity the imperfective or progressive viewpoint focuses on an interval of the situation and morphological factors channel its focus to the external intervals. Consider the following sentence :



(20) John was sitting in the chair.

On the internal reading an event is in progress, seating is taking place now whilst on the resultative reading the events have already taken place and the focus is on the resulting state.

#### **4.2.7 Bhat (1999)**

Bhat (1999:43) interprets aspect as a feature that indicates the temporal structure of an event whether it is ongoing, completed, beginning, continuing or ending, iterative or semelfactive etc. The temporal structure of an event can show different types of distinctions such as action being momentary or durative, active thus involving change or stative without change, occurring once (semelfactive) or occurring several times (iterative) or habitually.

These various types of aspectual distinction can be divided into three clearly marked groups as follows :

- (i) perfectives and imperfectives
- (ii) ingressive progressive, egressive and resultative
- (iii) semelfactive, iteratives, habituals and frequentives

#### **Perfective and Imperfective**

Perfectives and imperfectives can be distinguished from each other as follows : Perfectives provide the view of an event as a whole from outside and views the situation as bounded forming a unified entity. Imperfective provides the view of an event from inside, it is concerned with the structure and views the situation as ongoing or habitual.

The perfective reflects an action which is complete in relation to a point of time. It indicates only the past tense in simplest cases, events that are punctual and resultative whilst the imperfective shows an action which is in progress or repeated and is ongoing. Imperfective also reflects events that do not terminate in a result.

It does happen that future event be viewed and described as perfective and past event as imperfective. When an event is presented from a perfective viewpoint, it can be durative or progressive, whilst the one presented from an imperfective viewpoint can be resultative.

### **Phasal Aspects**

According to Bhat (1999:49) an event may have various phases such as beginning and an end, a middle portion (continuing or changing) result or altered state. Languages may have inflectional (or other types of) markers for representing these distinctions. These markers belong to the category of aspect and they may be grouped under a subcategory of aspect called 'phasal aspect'.

The phasal aspect of the boundaries is expressed through lexical means whereas that of the middle past which also affect the grammaticalization of phasal aspects is indicated by inflectional markers.

### **Quantificational aspects**

Quantificational aspects refer to markers that a given language furnish for meaning distinction of the event. They can be classified as follows : event occurring once only (semelfactive) or several times (iterative), a specific event or habitual one. Habitual is inductive and can be based upon the observation of a single occurrence, e.g. the habitual arrival of a train can be concluded by simply looking at the time table without actually the speaker observing any occurrence of the event. Iterative can only be based upon the observation of several occurrence of the event concerned for example the iterative knocking on the door.

The quantificational aspect occurring with verbs can connect with number distinction occurring with nouns. The aspectual markers may indicate plurality of argument such as the agent, patient, experiences, location, etc., or instead of the plurality of action in some of their usage.



## **Situational and viewpoint aspects**

Bhat (1999:58) gives the following explanation that an event can be associated with two different types of temporal structures. The first type reflect that the structure may be embedded in the situation itself and may show distinction such as :

- (i) events that have an ending (telic) and ones without (atelic)
- (ii) situation involving change (events) and those which do not involve change states
- (iii) durative events indicating some duration and those which are punctual and not involve duration.

These temporal structures of situation may be classified to the category 'aktionsart' situational aspect, 'actionality or merely action.

The second type is based upon the speaker's viewpoint. A speaker may view a situation from outside as a whole (perfective) or as ongoing (imperfective). These may be regarded as the aspect. They may be referred to from the beginning, continuity, progression end, stoppage or result or being habitual.

Situational type is different from tense and aspect in that it gets expressed by lexical distinction rather than by grammatical distinction.

## **Use of aspectual adverbials**

Aspectual adverbials may reflect the following instances : the range of duration (quantity) of a given event, e.g.

(21) He slept for three hours

They may also denote the range from the point of its ingressive or egressive phases and the aspectual distinction like frequency or habituality may also be the part of aspectual distinction. This can be made concrete by the following example.

- (22) a. He slept until four o'clock  
b. He slept three times (i.e. on three occasions)

Both the situation and viewpoint aspects indicate the same type of distinctions that are denoted by aspectual adverbials hence the two is expected to constrain one another. For example a telic adverbial would require the verb to be telic to avoid an ungrammatical situation which might be caused by a telic adverbial used with an atelic verb.

### 4.3 THE EXPRESSION OF ASPECT IN ZULU

According to Canonici (1995:67) aspect refers to the duration and type of action being described. Aspect relates to the internal time of the situation. It points to completion or non-completion of the action or state. Zulu aspect is expressed through a complex system shown, i.a. by a number of prefixes and suffixes as the following : **-sa-**, **-ka-**, **-ile/-e**.

#### 4.3.1 Types of aspect in Zulu

It has been shown above that the term aspect has various meanings in the literature although it originally refers only to the opposition perfective vs. imperfective in the Slavic languages.

Various aspectual references may be discerned in Zulu. These aspectual connotations may be either inflectional or lexical. Aspectual meanings may be found in three verbal mood forms, i.e. Indicative, Relative and Participial. These verbal forms are inflectional in nature and they are dependent on syntax. In the second place, there are lexical aspects which are found in some deficient verbs as well as the morphemes **sa** and **ka**.

The following aspectual references may be recognized in Zulu :



## **a. Perfective and Imperfective**

### **The Perfective or completion**

In Zulu the perfective expresses an action which has been completed in the past, it might be the recent past or the remote one. The action has been terminated, therefore the event has been closed. The completed situation has a beginning, middle part and endpoint. The perfective does not apply to statives.

### **The imperfective or non-completion**

The imperfective indicates that the action is in progress and does not show when the action has started or when is it going to end and have its final results. Thus, they refer to events which have no endpoints and which are open. Imperfective includes reference to the terms continuous or progressive. Only two tenses may feature with the imperfective, i.e. present and future tense.

## **b. Resultatives**

The resultative reflects the change of state and the focus is on the interval after the change of state. It indicates that now a particular state exists as a result of a past action. Mostly stative verbs are referred to.

## **c. Duration**

Duration refers to a situation that lasts for a certain period of time. It only refers to that period of time during which an event, state or action exist or take place.

## **d. Habitual**

Habitual refers to an occurrence of a situation in a particular manner which takes place regularly and repeatedly. Habituals are usually iterative and happens frequently and

continuative. The event has to take place at certain continuous intervals. It could be over within a period of days or years.

### **4.3.2 Perfective and Imperfective**

#### **4.3.2.1 Inflectional category**

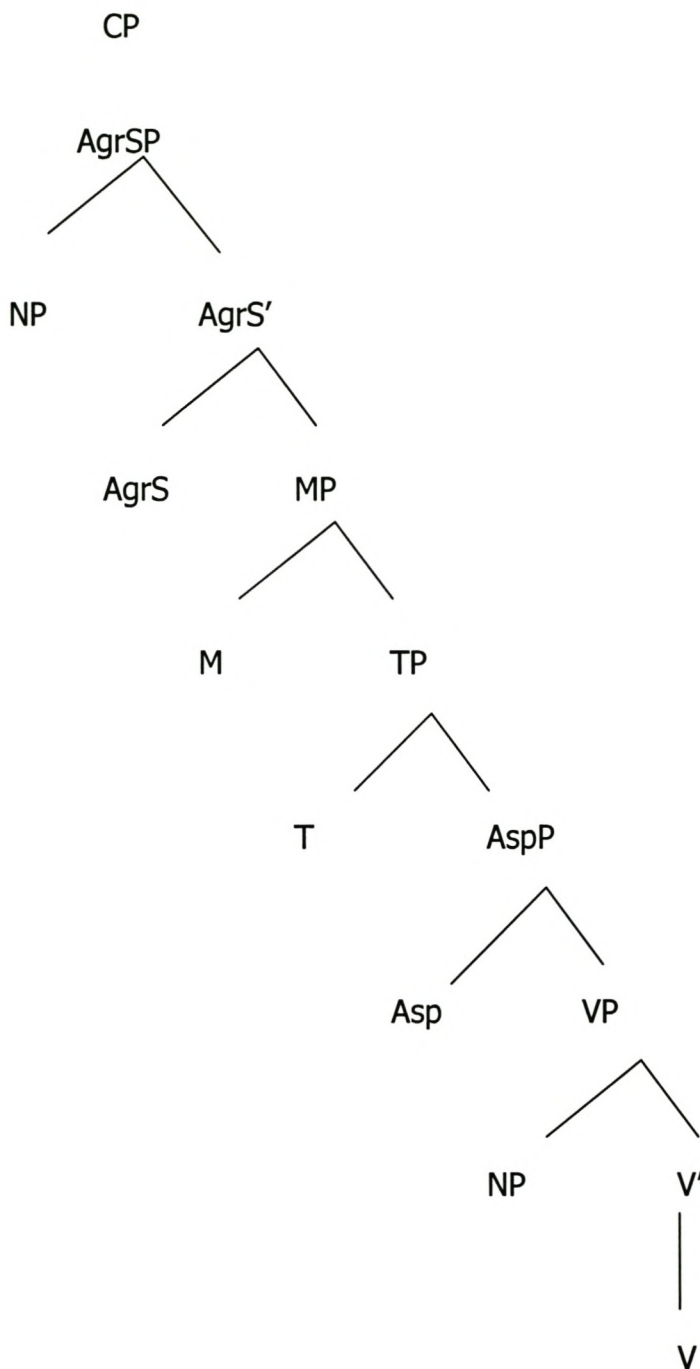
The aspect perfective and imperfective in Zulu appears as an inflectional category within syntax. There are five inflectional or functional categories in Zulu, i.e. mood, tense, agreement, negative and aspect.

Each of these categories may have a maximal projection according to the X-bar theory. Thus the category ASP will have a maximal projection ASPP (Aspect phrase). A clause such as the following will then appear in a tree structure which is shown below this clause:

- a. Abafazi ba-ya-cul-a**  
(The women are singing)

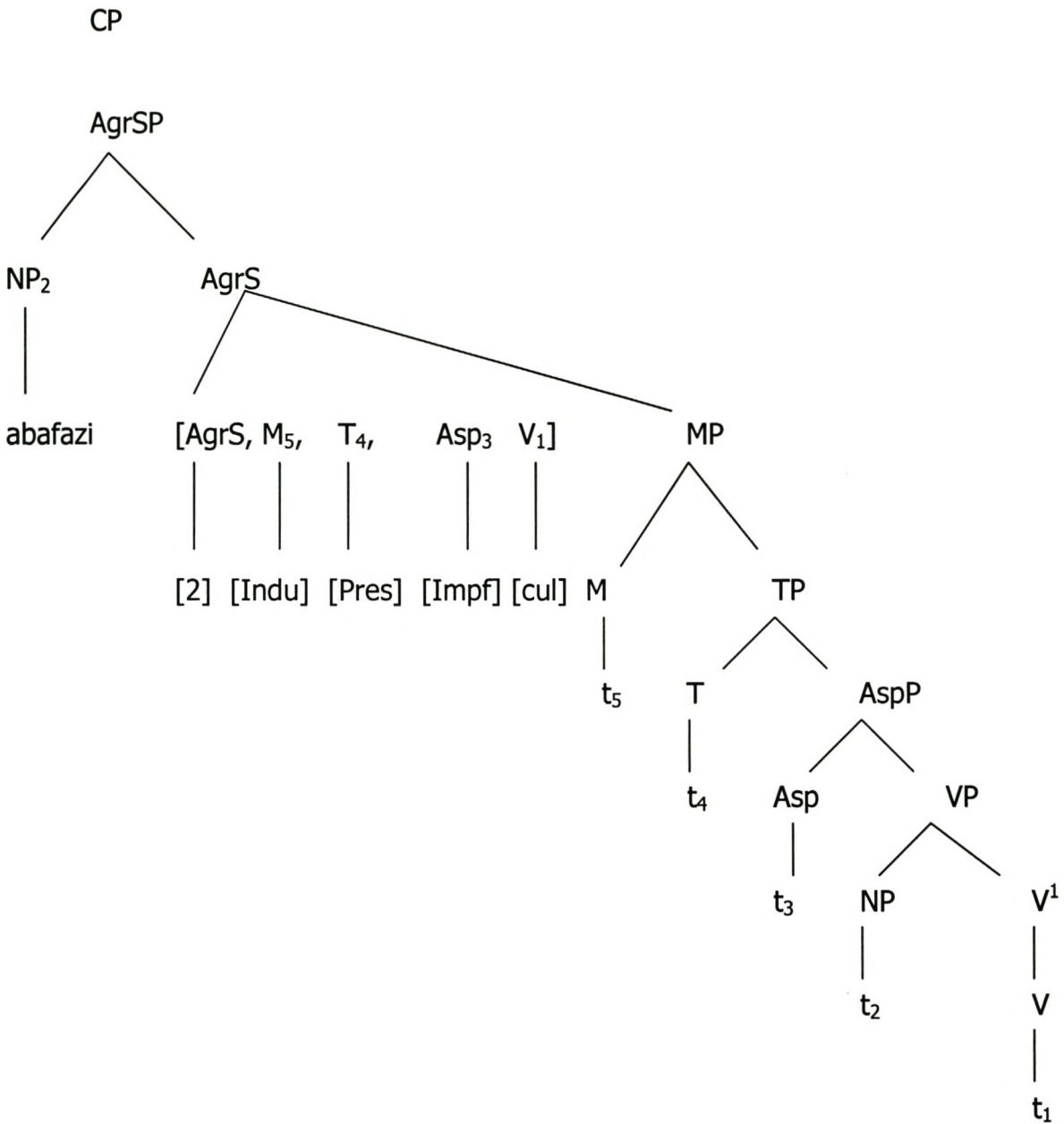


## b. Structure



The clause in (a) above will then have a complementizer phrase (CP) which is a clausal constituent. The second clausal constituent is an IP (inflectional phrase) which splits into different functional heads : agreement, mood, tense and aspect. Thus, CP and IP are functional projections while the VP above is a phrasal constituent with a noun phrase (NP) and verb phrase (VP) of which a noun and verb are representing the heads of such a

maximal projection. The clause in (a) above will then appear in a structure with the features as shown below :



The clause [**abafazi bayacula**] will then have the following categories :

Inflectional categories :

AgrS : subjectival agreement of class 2

Ind : Indicative mood (with trace t<sub>5</sub>)

T : Present tense (with t<sub>4</sub>)



Asp : Imperfect or non-completion (with trace  $t_3$ )

Lexical categories :

N : noun **abafazi** (with trace  $t_2$ )

V : verb **cula** (with trace  $t_1$ )

The functional category **aspect** (Asp) in the structure above, may be represented by the features **perfective** or **imperfective**, or alternatively by the feature completion and non-completion. It is sometimes represented as [ $\pm$ Perfective] or [ $\pm$ completion]. These two features appear in three verbal forms in Zulu, i.e. Indicative, relative clauses and participial clauses.

#### 4.3.2.2 Imperfective with an Indicative and Relative Clause

The feature imperfective or non-completion may appear in an Indicative and a Relative clause. Such a feature always has to appear with the inflectional categories of tense and mood, i.e. the feature imperfective may not occur without these other inflectional categories. Only the two tenses, Present and Future tense will allow this aspectual feature.

#### Present Tense

##### With intransitive verbs

##### Indicative :

- (23) Ingane iyakhala  
(the child is crying)

This indicative clause with an intransitive verb has the following features :

- a. Tense : Long present tense which appears when the verb has no complements or adjuncts. The presence of **ya** above does not affect the meaning of *present tense*.

- b. Mood : Indicative mood which represents the objective fact of the represented action or state, the situation is reflected as it is. Van Rooyen (1984:7) as quoted by Canonici (1995:75) calls it "the mood of reality". It describes an action or states a fact.
- c. Aspect : The verb **iyakhala** indicates that the action is in progress, there is no traces of when it started and when is it going to end, therefore the aspect is imperfective because the action is in a non-completed stage without an end-point.

### Relative :

(24) Yingane ekhalayo

(It is the child that is crying)

- a. Tense : This relative clause is in the present tense reflecting the crying of the child now.
- b. Mood : This relative construction **ekhalayo** has a relative form. The affixing of the suffix **-yo-** has changed the verb to a relative form, hence it can no longer be an indicative mood.
- c. Aspect : This relative **ekhalayo** implies a progressive action. It describes the action taken by the child without indicating the time frame of when did the crying started and when is it going to end. This aspect is imperfective.

### With transitive verbs

#### Indicative :

(25) Amadoda aphuza utshwala

(The men drink liquor)

- a. Tense : The verb **aphuza** allows the short present tense because it is followed by the object **utshwala** as in (23) and (24) above the reference remains the *present*.



- b. Mood : The indicative clause describes the action that the men are engaged in presently, their action at this particular moment.
- c. Aspect : The indicative present clause reflects the imperfective aspect because there is no endpoint. There is no indication of when this action started or will stop. It may also have a habitual reading (see par. 3.5.1.2).

## Relative

(26) Ngamadoda aphuza utshwala  
(It is the men that are drinking liquor)

- a. Tense : This sentence is in the present tense because this relative construction describes what is being done by the men now.
- b. Mood : The verb **aphuza** has the relative form of the present tense.
- c. Aspect : The relative **aphuza** indicates the imperfective because the action has no endpoint. As above, it may be ambiguous because it may also have a habitual reading (see par. 3.5.1.2).

## With ditransitive verbs

### Indicative :

(27) Umfazi unika indoda imali  
(The woman gives the man money)

- a. Tense : This sentence is in the present tense, it indicates what is going on now. the woman is engaged in the activity of handing over the money to the man.
- b. Mood : This sentence is in the indicative mood because it states what is happening now.
- c. Aspect : The action is still going on, hence the aspect reflected is an imperfective one.

**Relative :**

(28) Ngumfazi onika indoda imali

(It is the woman who gives the man money)

- a. Tense : this clause is in the present tense and reflects an action that is happening now.
- b. Mood : It is a relative construction with the relative verb **onika**.
- c. Aspect : The copulative construction **ngumfazi** emphasizes the fact that it is the woman who gives the money to the man. It suggest that the woman has developed a habit of doing so (see also par. 3.5.1.2). It may be ambiguous with a reading of imperfective when the action has no endpoint.

**With objectival agreement****Indicative**

(29) a. Izingane ziyasidla isinkwa

(The children do eat the bread)

b. Umfazi uyazinika izingane ukudla

(The woman does give the children food)

- a. Tense : Both (a) and (b) are in the present tense. The objectival agreement does not alter the tense of the sentence, it serves to emphasize the verb.
- b. Mood : Both (a) and (b) are in the indicative mood.
- c. Aspect : A fact has been stated in both (a) and (b) but the beginning and the end of the action has not been indicated, therefore the aspect is imperfective.

**Relative :**

(30) a. Yizingane ezisidlayo isinkwa

(It is the children who do eat the bread)

b. Ngumfazi ozinikayo izingane ukudla



(It is the woman who do gives the children food)

- a. Tense : Both (a) and (b) are in the present tense.
- b. Mood : The presence of the relative suffix **-yo** in both (a) and (b) changes these verbs to relative forms.
- c. Aspect : In the relative construction **ezisidlayo** and **ozinikayo** in (a) and (b) there is no indication of beginning or end, hence the aspect is imperfective.

## Future Tense

### With intransitive verbs

#### Indicative :

(31) Ingane izokhala  
(The child will cry)

- a. Tense : The inclusion of the future tense morpheme **-zo-** indicates that this sentence is in the future tense.
- b. Mood : This sentence indicates what the child will be doing during the time to come hence it is in the indicative mood.
- c. Aspect : The sentence does not indicate the definite time the action is going to start or stop and only reflects that in future the child will cry. The aspect referred to here is an imperfective.

#### Relative :

(32) Yingane ezokhala  
(It is the child who is going to cry)

- a. Tense : The relative construction is in the future tense identifiable by the future formative **-zo-**. The relative marker **-yo** is not suffixed as in the present tense.
- b. Mood : The verb **ezokhala** has a Relative form.

- c. Aspect : The fact that this action is going to happen in the future suggests that the aspect is imperfective because no beginning or end of the action can be predicted.

### With transitive verbs

#### Indicative :

(33) Amadoda azophuza utshwala  
(The men will drink liquor)

- a. Tense : The verb in this sentence has the future formative **-zo-** which suggests that the action will take place in the future.
- b. Mood : The indicative mood states what will be the type of action which will take place in future.
- c. Aspect : The above sentence does not indicate when the action will start or be completed but suggests that men will drink in future. The aspect is the imperfective.

#### Relative :

(34) Ngamadoda azophuza utshwala  
(It is the men who will drink liquor)

- a. Tense : The relative construction **azophuza** is in the future tense, this has been brought about by the future tense formative **-zo-**.
- b. Mood : The verb **azophuza** has a relative form.
- c. Aspect : The aspect is the imperfective one because the action is still going to happen.



**With ditransitive verbs****Indicative :**

(35) Umfazi uzonika indoda imali

(The woman will give the man money)

- a. Tense : The woman will give money to the man in time to come this is reflected in the verb **uzonika** which has a future tense formative **-zo-**.
- b. Mood : This sentence is in the indicative mood, it states what will be in future.
- c. Aspect : The sentence suggest that the woman will give the man money but does not indicate when will the action start or stop hence the aspect is imperfect.

**Relative :**

(36) Ngumfazi ozonika indoda imali

(It is the woman who will give the man money)

- a. Tense : The formative **-zo-** which is used to form future tense indicates that the verb **uzonika** is in the future.
- b. Mood : The relative construction is **ozonika**.
- c. Aspect : The sentence indicates that the action is still going to happen, therefore the aspect is the imperfective.

**With objectival agreement****Indicative :**

(37) a. Izingane zizosidla isinkwa

(The children will eat the bread)

b. Umfazi uzozinika izingane ukudla

(The woman will give the children food)

- a. Tense : Both verbs in (a) and (b) have the future tense formative **-zo-** which indicates that the actions will take place in the future.
- b. Mood : Both sentences are in the indicative mood, they show what will happen in the future.
- c. Aspect : These sentences have the imperfective aspect.

### Relative :

- (38) a. Yizingane ezizosidla isinkwa  
(It is the children who will eat the bread)
- b. Ngumfazi ozozinika izingane ukudla  
(It is the woman who will give the children food)

- a. Tense : Both sentences are in the future tense; this is suggested by the future tense marker **-zo-** which appears in both verbs of these sentences.
- b. Mood : Both (a) and (b) above have relative verbs.
- c. Aspect : These sentences reflect the imperfective aspect.

#### 4.3.2.3 Imperfective with a Participial Clause

The participial clause has a dependent mood therefore it never appears in a matrix clause. It occurs in a subordinate clause where the action takes place simultaneously with another action. It is dependent on other moods such as the indicative. Only two types of participial clauses will be investigated, i.e. simultaneous clauses and compound tenses with a participial clause as complement.

#### Simultaneous clauses

The indicative and relative clause discussed in paragraph 4.3.2.2 indicates that the Present tense and the future tense have both a feature of tense and aspect, i.e. present or future together with an imperfective aspect. However, the feature tense seems to be absent in



the participial clause because such clauses may be combined with any tense in the matrix clause.

### The present tense of the participial clause

(39) The matrix clause has a Present tense :

a. Ngisebenza [becula]

The matrix clause has a future tense :

b. Ngizosebenza [becula]

The matrix clause has a Perfect tense :

c. Ngisebenzile [becula]

- a. Tense : The participial clause **becula** above has not altered its form in all these instances as shown in a, b, c and that suggests that it does not refer to time by itself. The participial clause may be combined with any tense in this instance the present, future and past tense in the matrix clause. With (b) the matrix clause changes its form by infixing **-zo-** between the agreement and the verb to indicate the future tense. With the perfect tense in (c) the suffix **-ile** is used to change the verb. In every instance the participial clause is not affected, it remains the same but it adopts the time of the matrix clause. One may conclude by saying the participial clause has no reference to time by itself.
- b. Mood : The matrix clause is in the indicative mood and the subordinate clause is in the participial mood. It depends on the indicative mood and it describes the situation of an action **becula**.
- c. Aspect : The matrix clause of (a) and (b) refers to the imperfective aspect whilst that of (c) has a perfective aspect. The participial clause of (a) and (b) refers to the imperfective aspect whilst that of (c) has a perfective aspect. The participial clause **becula** indicates a continuous state and does not reflect when the action started or stopped hence it has the imperfective aspect.

### The Future tense of the Participial clause

(40) The matrix clause has a Present tense :

a. Abafazi bacula [bezohamba]

The matrix clause has a Future tense :

b. Abafazi bazotheza [bezobasa]

The matrix clause has a Perfect tense :

c. Ngibone abafazi [bezopheka]

The future tense of the Participial clauses, i.e. **bezohamba**, **bezobasa**, **bezopheka**, may not have a time feature of [future] because it may combine with any tense in the matrix clause : in (a) present tense in (b) future tense and in (c) an immediate past. In each of these cases the participial clause above may then not indicate any time on its own but it may refer to some aspect. The specific aspect here does not refer to the imperfective but to an aspect **initiative** i.e. it refers to an action or an event which is just starting or which is about to start or which is on the point of starting. Thus the aspectual feature initiative refers to an action or event which starts something happening :

Ngibone abafazi [bezopheka]

(I saw the women while they are on the point to cook / about to start cooking)

### **Compound tenses with a participial clause as complement**

Three major compound tenses will be considered below, i.e. compound tenses with matrix clause in the perfect tense and compound tenses with the matrix clause in the A-past or remote past tense, as well as one with the Future tense.

#### **The matrix clause has a Perfect tense**

The matrix clause always appears with a deficient verb **be** which is in the Perfect tense. Such a matrix clause may appear with the following participial clauses as complement :

(41) Present tense participial clause :

a. [Ngibe [ngisebenza] → [bengisebenza]

Future tense participial clause :

b. [Ngibe [ngizosebenza] → [bengizosebenza]



- a. Tense : With sentence (a) the participial clause **ngisebenza** does not have its own time reference but after combining with the deficient verb **be**, from this perfect tense of the matrix clause the participial inherits the immediate past. With (b) the participial clause has the future but when it forms a compound with the deficient verb that indicates the perfect in the matrix clause, it inherits this reference and changes to an immediate past.
- b. Aspect : **Bengisebenza** refers to an imperfective aspect which gives the meaning of not being completed. **Bengisebenza** refers to what the speaker was doing, we are not told whether the action was completed. **Bengizosebenza** refers to the action which was going to take place, i.e. it refers to an initiative aspect.

### The matrix clause has a Remote past tense

(42) With a Present tense participial clause :

a. [ngabe [ngisebenza] → [ngangisebenza]

With a Future tense participial clause :

b. [ngabe [ngizosebenza] → [ngangizosebenza]

- a. Tense : The participial clauses **ngisebenza** and **ngizosebenza** have no time feature. After combining with the Remote past tense of the matrix clauses, they inherited those tenses as they appear simultaneously.
- b. Aspect : With (a) the aspect is imperfective : the speaker refers to his intentions and do not say when the action will terminate. With (b) the aspect is initiative as above.

### The matrix clause has a Future tense

(43) With a Present tense participial clause :

a. [ngizobe [ngisebenza] → ngizobengisebenza

With a Future tense Participial clause :

b. [ngizobe [ngizosebenza] → ngizobesengizosebenza

- a. Tense : The matrix clause which is in the future tense influences the participial clause by giving this time reference to the complement, i.e. the speaker indicates his intention of starting to work soon. Both reflect the future tense, but in (b) a deficient verb *se* is necessary.
- b. Aspect : With (a) the aspect is imperfective because the action would have started but with no reference to the finishing time. With (b) the aspect referred to is the initiative aspect because the speaker would be on the point or about to start the work.

#### 4.3.2.4 Perfective with an Indicative and Relative clause

Both the Indicative and Relative clauses do take the perfective aspect and this will be shown by examples to be discussed below :

##### With intransitive verbs

- (44) a. Indicative  
Ingane ikhalile
- b. Relative  
Yingane ekhalile
- a. Tense : With these intransitive verbs, the immediate past tense feature is identifiable by the suffix **-ile**. The long perfect tense is used because with these sentences there is no complement or adjunct following the verb. With the relative clause, the relative marker **yo** is omitted with the perfect stem.
- b. Mood : (a) reflects the indicative mood and it has no specific morpheme to mark it. With (b) the prefix **e-** has a definite morpheme *a* which marks it as a relative.
- c. Aspect : The suffix **-ile** implies that the action is completed. The child did cry in the past and now she is silent, i.e. both (a) and (b) has a perfective aspect.

##### With transitive verbs



- (45) a. Indicative  
Amadoda aphuze utshwala
- b. Relative  
Ngamadoda aphuze utshwala

- a. Tense : With both (a) and (b) the verb **aphuze** clearly marks the immediate past time which is the perfect tense. The suffix **-e** which is in the short form is used because the verb appears with an object **utshwala**.
- b. Mood : With (a) the sentence is in the indicative mood. With (b) the copulative clause **ngamadoda** indicates that there are specific men who drank beer. The verb **aphuze** is a relative verb.
- c. Aspect : Both (a) and (b) refers to the perfective aspect showing a completed action.

### With ditransitive verbs

- (46) a. Indicative  
Umfazi unike indoda imali  
(The woman gave the man some money)
- b. Relative  
Ngumfazi onike indoda imali  
(It is the woman who gave the man some money)

- a. Tense : Both (a) and (b) sentences are in the perfect tense. The suffix **-e** in both clauses indicates the past time, the action has already been performed.
- b. Mood : (a) refers to the indicative mood whilst (b) refers to the relative.
- c. Aspect : These two sentences refer to the perfective aspect.

### With objectival agreement

- (47) a. Indicative  
Izingane zisidlile isinkwa  
(The children have eaten the bread)

Umfazi uzinikile izingane ukudla

(The woman gave children some food)

b. Relative

Yizingane ezisidlile isinkwa

(It is the children who ate some bread)

Ngumfazi ozinikile izingane ukudla

(It is the woman who gave the children food)

- a. Tense : With both (a) and (b) the presence of the objectival agreement **-si-** and **-zi-** do not affect the tense of **dlile** and **nikile**, they are in the perfect tense. They emphasize the fact that the action has taken place. With the relative construction **yo** is omitted. With the inclusion of the objectival agreement the long form **ile** of the perfect tense is used instead of the short form *e*.
- b. Mood : Sentence (a) is in the indicative mood, whilst (b) has a relative verb.
- c. Aspect : Both (a) and (b) are in the perfective, they reflect that the action has taken place and there is no continuity.

#### 4.3.2.5 Perfective with a Participial clause

Two types of participial clause will be investigated below, i.e. simultaneous clauses and compound tenses with a participial clause as a complement.

#### Simultaneous clauses

With the perfect tense of the Participial clause :

- (48) a. The matrix clause has a Present tense :  
Amadoda angena [abafazi bephekile]  
(The men enter while the women have cooked)
- b. The matrix clause has a Future tense :  
Amadoda azongena [abafazi bephekile]  
(The men will enter while the women have cooked)
- c. The matrix clause is in the Perfect tense :



Amadoda angenile [abafazi bephekile]

(The men entered while women have cooked)

- a. Tense : With (a), (b) and (c) the matrix clauses reflect different tenses, i.e. present, future and perfect while the participial clauses have no time on their own but they refer to an aspect perfective. In all these three sentences the participial clause inherits the tense of the matrix clause because these two clauses appear simultaneously and it does not carry tense.
- b. Aspect : The participial clause **bephekile** have an aspectual feature of perfective in all these three sentences.

### Compound tenses with a participial clause as complement

With a Perfect tense participial clause :

- (49)
- a. The matrix clause has a Perfect tense  
[Ngibe [ngisebenzile] → [bengisebenzile]
  - b. The matrix clause has an A-past tense  
[Ngabe [ngisebenzile] → [ngangisebenzile]
  - c. The matrix clause has a Future tense :  
[Ngizobe [ngisebenzile] → [ngizobengisebenzile]

- a. Tense : The matrix clauses with perfect, past and future tense influences the participial clause which in this instance is the perfect. They make the participial clause to inherit these different times in the matrix clause. The participial clause only indicates aspect.
- b. Aspect : Although the matrix clause has made the participial clause to inherit its tense the participial clause remains with its aspect of being perfective.

### 4.3.3 Resultative

The meaning of resultative as given by Bybee, Perkins and Pagliuca (1994) is as follows : resultative denotes some actions committed in the past which resulted into a particular

state. It focuses on what result came about after a change of state. A resultative sense is agreeable with a predicate that indicates a change of state. It expresses a complex meaning that a present state exists as the result of previous action. The resultative indicates that the state persists at reference time.

With Zulu the resultative is expressed through i.a. the stative verbs and verbs of change of state. They refer to a state that occurs which cannot change or continue unless something else happens in order to change it. They can appear in the following examples:

### Stative verbs :

- (50) Izingane **zilambile** zicela ukudla  
(The children are hungry, they are asking for food)
- (51) Izinkomo zami **zifile**  
(My cattle are dead)
- (52) Uthisha **uthukuthele** ngoba asiwenzanga umsebenzi  
(The teacher is angry because we did not do the work)
- (53) Muphe amanzi **womile**  
(Give her water she is thirsty)
- (54) Umfundisi **usangene** ngoba ulahlekelwe imoto  
(the priest is crazy because he has lost his car)
- (55) Ingane **iphapheme** ungabangi umsindo  
(The child is awake, do not make a noise)
- (56) Izimbali **zibunile** manje ebusika  
(The flowers are withered now in winter)
- (57) Uthishanhloko waseMawombe **uthathe** umhlalaphansi ngoba ugugile



(The headmaster of Mawombe is retired because he is old)

- (58) Le ngane **ihlakaniphile** iphumelele ngamalengiso  
(This child is intelligent, he has passed with distinction)
- (59) Amapentshisi **avuthiwe**, sizowadla  
(Peaches are ripe we will eat them)
- (60) Induna **ishonile**  
(The headman is dead)
- (61) Amanzi **aphelile**  
(The water is finished)

### **Verbs of change of state**

- (62) Ukhamba **luphukile**  
(The calabash is broken)
- (63) Ifasitela **liphahlazekile**  
(The window is broken)

These verbs have a resultative aspect.

### **4.3.4 Duration**

The term duration refers to durative situations which have both a beginning and an end but at different points in time. Furthermore, they have between their beginning and their end many temporal phases.

Durative situations may be expressed in Zulu by various deficient verbs as well as by two durative morphemes, i.e. [sa] and [ka]. Thus, the reference to aspect with the deficient verbs is lexical and not inflectional.

#### 4.3.4.1 Deficient verbs

The complements of the deficient verbs and their meaning will be discussed below :

##### (64) [qede]

This deficient verb is derived from the verb **qeda** (finish). It gives a meaning which refers to a period after an unspecified time. The clause with the deficient verb **qede** appears in a subordinated clause preceded by verbs in the matrix clause with different tenses such as present, future and past tense. It may also appear in subjunctive clause and the consecutive as follows :

a. Present tense

Izingane ziyageza [qede [ziye esikoleni]

(The children wash then go to school)

b. Future tense

Izingane zizogeza [ziqede [ziye esikoleni]

(The children will wash then go to school)

c. Past tense

Izingane zageza [zaqeda [zaya esikoleni]

(The children washed then went to school)

d. Subjunctive mood

Izingane kufanele ukuthi [zigeze [qede [ziye esikoleni]

When the matrix clause preceding the deficient verb **qede** is in different tenses as in (a-b) the deficient verb clauses and their complements are subjunctive clauses i.e. [qede [ziye esikoleni]. With (d) the clause [zigeze] is in the subjunctive mood hence the clause **qede** and its complement is also in the subjunctive mood. With (c) the clause **zaqede** is



preceded by a past tense clause and consequently the clause **qede** and its complement appear in the consecutive.

(65) [**nce**]

The deficient verb **nce** is used with future intent and refers to a period after an unspecified time. It usually appears in subordinate clauses. It can be used with various tenses such as the present and future tense, and it is followed by the subjunctive mood. It can also be found with the subjunctive mood as in (c).

a. Present tense

Thandi linda uZodwa [nce [abhale] incwadi exolisayo  
(Thandi wait until Zodwa writes a letter of apology)

b. Future tense

[Ngizonce [ngidle] emva kokuhlanza indlu  
(I will eat after I have cleaned the house)

c. Subjunctive mood

Ngifuna ukuthi [ance [aye] eGoli kusasa  
(I want him to go to Johannesburg tomorrow)

(66) [**vele**]

The deficient verb **vele** has a reference to an action or event which takes place for a long time. It is derived from the verb vela (come out). It usually appears in subordinate clauses. When used in sentences with the future tense or present tense in the matrix clause it is followed by the subjunctive mood in its complement as (a) and (c). with a past tense its complement has a consecutive as in (c).

a. Future tense

[Ngizovele [ngihlale] eGoli unyaka wonke  
(I will simply stay in Johannesburg for the whole year)

b. Past tense

[Wavele [wahlala] eMelika iminyaka emithathu

(He simply stayed in America for three years)

c. Present tense

[Uvele [agule] unyaka wonke

(He simply gets sick for the whole year)

(67) [ze]

The deficient **ze** refers to an action or event which happens up to a certain time in a positive form. It can also be used in the negative to express the concept of do not. It can be used with the following sentences :

a. Imperative

Linda [aze [agcwale] amanzi ebhakedeni

(Wait until the bucket is full of water)

b. Future tense

Ngizolinda [ngize [ngihambe] ntambama

(I will wait then go in the evening)

c. Past tense

Walinda [waze [wafika] umfundisi

(He waited until the priest arrived)

d. Subjunctive

Kungcono ukuba [uhlale [uze [uhambe] ntambama

(It is better that you stay

e. Negative

[Angize [ngingadlala] ikhilikithi

(I do not play cricket)

f. Consecutive

[Balinda [bacula [waze] wafika umakoti



(They waited, sung until the bride arrived)

When the matrix clause is in the imperative mood such as **linda** in (a) the clause with **ze** will be in the subjunctive mood and its complement will also be in the subjunctive mood. The clause with **linda** can also take the future as in (b) and the clause **ze** following this tense will also be in the subjunctive clause as well as its complement. Sentence (d) as a whole is in the subjunctive. The negative **angize** as in (e) would be followed by a clause in the potential mood, when the first clause is a past tense as in (c) or in the consecutive as in (f), the clause **ze** and its complement will be in the consecutive.

(68) [**ze**]

This deficient verb **ze** as in (67) can also carry the meaning after a long time. It can be used with the present tense, imperative, future tense and the subjunctive mood. It will then be followed by the subjunctive clauses as in (a), (b) and (e). It can also be used with a past tense which is then followed by a consecutive as in (c) and (d).

a. Imperative :

[Hlala [aze [abuye] eGoli

(Stay until he comes back from Johannesburg)

b. Future tense :

[Ngizofunda [ngize [ngikhathale] kusasa

(I will read until I get tired tomorrow)

c. Past tense :

[Bacula [baze [balamba] belinde umakoti.

(They sang until they got hungry waiting for the bride)

d. Past tense :

UThemba [ubekezele [waze [waphumelela] izifundo zakhe

(Themba was patient until he succeeded in his lessons)

e. Present tense :

Izinyoni [ziyathutha [zicashe [zifukame [ze [kudlule] ubusika.

(Birds migrate, hibernate and nest until winter passes)

(69) [**sanda**]

The deficient verb **sanda** will give a meaning which refers to only a short while ago, an action which has just taken place. The clause with **sanda** is always followed by the infinitive clause. The deficient verb **sanda** is in the indicative mood. It can only be used with a past tense reference as shown by the following examples :

a. [Ngisanda [ukudla] ubhanana ngisuthi

(I have just eaten some bhanana I am full)

b. Ibhanoyi [lisanda [ukusuka] esikhumulweni sezindiza

(The aeroplane have just taken off from the airport)

(70) [**bonaze**]

The deficient **bonaze** expresses the idea of an action or event that has never before ever happened. It can only be used with a past tense reference followed by the subjunctive clause. The following sentences illustrate that :

a. [Asibonaze [siye] eThekwini nabangane bami

(We have never before went to Durban with my friends)

b. [Angibonaze [ngidle] loku kudla okunje.

(I have never eaten this type of food)

This deficient verb is always in the negative.

(71) [**kaze**]



This deficient form is used in the negative form and carries the meaning of something that never at any time happened. It can only be used with a past tense reference followed by a subjunctive clause as shown by the following sentences :

- a. [Angikaze [ngisebenze]  
(I have never worked)
- b. [Angikaze [ngidle] amakhiwane soloku ngazalwa.  
(I have never eaten figs since I was born)

(72) [**se**]

The deficient **se** refers to an action or event which might happen by or before now or a particular time. The complement of *se* can take all the tenses of the participial as in (a-d) below. **Se** and its complement may be used in the situative as in (e). it can appear in the potential followed by the subjunctive mood as illustrated in (f).

- a. Present tense :  
[Sengiyadlala]  
(I am playing)
- b. Past tense :  
[Sebebuye] naye  
(They have returned with him)
- c. Perfect tense :  
[Sengidlile]  
(I have eaten)
- d. Future tense :  
[Sengizohamba] kusasa  
(I will then go tomorrow)

- e. Situative  
Ngafika izingane [seziculile]  
(I arrived after the children have already sung)
- f. Potential  
[Ngingase [ngithole] imali yami ebhange namuhla  
(I might receive my money from the bank today)

(73) [**buye**]

The deficient verb carries the meaning a period after an unspecified time. This deficient verb is derived from the verb (buya) (come back). The clause with the deficient verb **buye** appears in a subordinate clause : when the first clause has a Present, Future tense or a subjunctive mood, the subordinate clause with **buye** will be in the subjunctive mood while the complement clause of **buye** will also be in the subjunctive mood. The first clause can also have the consecutive clause or a past tense and its complement will have the consecutive as illustrated by the following sentences :

- a. Present tense :  
[Ushaya ugubhu [abuye [acule]  
(He plays piano and also sings)
- b. Future tense :  
[Uzoshaya ugubhu [abuye [acule]  
(He will play the piano and sings)
- c. Past tense :  
[Washaya ugubhu [wabuye [wacula]  
(He played piano and also sung)
- d. Subjunctive :  
Ngithanda ukuthi [adanse [abuye [acule]  
(I like that he must dance and also sings)



## e. Consecutive :

Washaya ugubhu [wadansa [wabuye [wacula]

(He played the piano, danced and also sung)

(74) [**nele**]

The deficient verb in **nele** carries the meaning of as soon as. When the deficient verb **nele** appears in the future or present tense, or subjunctive their complement will be in the subjunctive mood. When the initial clause is in the consecutive or past tense the clause **nele** with its complement will be in the consecutive. The following examples will illustrate that.

## a. Future tense :

[Uzonele [afike [ngiye] naye kugogo

(As soon as he arrives, I will take him to the grandmother)

## b. Past tense :

[Wanele [wadla] ubhontshisi waphathwa isisu.

(After he ate beans he complained of stomach pain)

## c. Present tense :

[unele [adle] ubhontshisi aphathwe isisu.

(After he has eaten beans he suffers from the stomach pain)

## d. Consecutive :

[Ngathula [bangithuka [nganele [ngafika] ekhaya ngakhala.

(I kept quiet whilst they insulted me as soon as I arrived home I cried)

This deficient verb can also be followed by the infinitive and carries the same meaning as soon as. Consider the following example :

[kwanele [ukubanda [ngabasa] umlilo.

(when it became cold I lit the fire)

(75) [**ke**]

The deficient verb **ke** refers to an action that occurs at some time. It can only be used with the future, past and subjunctive mood. These clauses with the future and subjunctive will be followed by the subjunctive clause while a past tense *ke* has a consecutive as complement. Sometimes it can be used negatively. Consider the following examples :

a. Past tense :

[wake [wazingela] onogwaja ehlathini laseNgome

(Have you hunted for rabbits in the Ngome forest)

b. Future tense :

[Ngizoke [ngicule] emcintiswaneni wamasonto.

(I will sing at the church choir competition)

c. Subjunctive :

Kungcono ukuba [uke [uye] udokotela uyohlola igazi.

(It is better that you go to the doctor for blood testing)

d. Negative :

[Angeke [ngiye] eGoli

(I will never go to Johannesburg)

(76) [**qabuka**]

The deficient verb **qabuka** refers to an action that occurs at some time. It is followed by a subjunctive clause :

a. [Uqabuka [aye] esikoleni akasithandi.

(He seldom goes to school he doesn't like it)



- b. Ngiyazi ukuthi [uqabuka [esethukuthelele] wonke umuntu.  
(I know he seldom becomes annoyed by everybody)

#### 4.3.4.2 Morphemes

##### The Morpheme [sa]

The morpheme **-sa-** is used to express an ongoing process. The progressive aspect conveys the meaning that the action is still happening. It may occur in a number of tenses and forms such as the Present, Future, Perfect, but only with stative verbs because the ordinary perfect expresses the completed action. The morpheme **-sa-** can also be used in the formation of compound tenses. The progressive form of the present tense can be made negative by means of **-(k)a-** plus the negative concord placed before **-sa-** and the verb stem and the suffix of the verb will be replaced by the suffix **-i**. In some instances **-sa-** can be used with the relative construction to indicate that the action is in progress. The progressive **-sa-** is also found with the descriptive copulatives following the subject concord but it changes into **-se-** before the copulative or a relative stem, consider the following examples :

- a. Present tense :  
Umama usapheka ukudla  
(Mother is still cooking the food)
- b. Future tense :  
Sisayothenga ukudla
- c. The stative  
Ingane isalele  
(The child is still asleep)
- d. Compound tense :  
Wayesadla

(He was still eating)

e. Compound tense :

Wayesalele

(He was still asleep)

f. Compound tense :

Bengisalambile

(I was still hungry)

g. Compound tense :

Bengisazosebenza

(I was still going to work)

h. Negative :

Angisadli

(I am not eating)

i. Relative construction :

Umlimi osakhulumayo

(The farmer who is still talking)

j. Descriptive copulative :

UNontobeko useyingane

(Nontobeko is still a child)

k. Adjective

Wena usemncane

(You are still young)



## The morpheme [ka]

The morpheme **-ka-** expresses an action that has not yet taken place at a certain time. According to Taljaard and Bosch (1988:156) this morpheme **-ka-** may be used with a variety of forms of the indicative mood and the situative. The negative may be used in the following instances as shown below :

- a. The morpheme **-ka-** may be used in a negative exclusive indicating that an action has not taken place like in :  
 asikadli (we have not yet eaten)  
 asikahambi (we have not yet left)
  
- b. It may also be used as an answer to a number of positive forms.  
 Question : udlalile ? (Have you played?)  
 Answer : angikadlali (I haven't yet played)
  
- c. It can be used with a verb in the situative with the negative formative nga :  
 Udlule lapha ngingakahambi  
 (He passed here whilst I haven't yet left)
  
- d. It may be used with forms with auxiliary **-be-**  
 Besingakaculi  
 (We have not sang yet)
  
- e. It may also be used in relative constructions :  
 Uthathe incwadi engingakayifundi  
 (He took the book I have not yet read)
  
- f. The morpheme **ka** may also be used in the participial clause :  
 Muyeke uma engakathandi ukudla  
 (Leave him if he does not like to eat yet)

### 4.3.5 Habitual

The term habitual includes terms such as frequentative, iterative and continuative. The aspectual reference in all these cases is lexical by nature because their reference is within the deficient verb which is in the lexicon.

#### 4.3.5.1 Habitual

The term habitual refers to a customary action or event which is characterized by frequent repetition. This term is also sometimes used in the interpretation of genericity with reference to characterizing sentences or omnitemporal events or actions.

#### 4.3.5.2 Deficient verbs

The deficient verbs that carry a habitual meaning and their complements will be discussed below. These deficient verbs are divided into four subsections i.e. A, B, C, D.

A : (77) [**hlale**]

The deficient **hlale** is derived from the word **hlala** (sit). It carries the meaning of an action which always takes place. The clause with the deficient verb **hlale** is followed by a complement clause which has the participial mood. The matrix clause may be in the present, past, future tense. Consider the following examples :

a. Present tense :

[Ngihlale [ngilima] lingakaphumi ilanga.

(I always plough the fields before the sun rise)

b. Future tense :

[Uzohlale [efunda] ntambama ukuze aphumelele.

(He will always read during the evening so that he succeeds)

c. Compound tense :



Othisha [babehlale [besikhumbuza] ukuthi sifunde.

(The teacher always reminded us to read)

(78) [**hleze**]

This deficient verb means to do a thing constantly until it forms a habit. The deficient verb **hleze** appears in a matrix clause. When it appears in the matrix clause either as the present, future, past tense or participial mood the complement is always a participial clause as shown with the following examples :

a. Present tense :

[Bahleze [bezilolongela [ukugijima zonke izinsuku.

(They constantly train for the race daily)

b. Future tense :

[Bazohleze [bezilolongela [ukugijima] iMarathon.

(They will always train for the marathon race)

c. Compound tense :

[wayehleze [edlala] ibhola esikoleni

(He always played soccer at school)

(79) [**hlalele**]

**Hlalele** means that the action is constantly performed. This deficient verb has the infinitive as a complement :

a. Present tense :

[Awusebenzi [uhlalele [ukuxoxa] izindaba.

(You are not working, you are always engaged in a conversation)

b. Compound tense :

Abafana [bebehlalele [ukudla] izindoni

(The boys were always eating the figs)

c. Participial mood :

[Ngahlala [ngamlinda [ehlalele [ukuxoxa] izindaba.

(I stayed, waited for him while he was constantly narrating stories)

(80) [**zinge**]

This deficient verb refers to an action which is being done on a regular basis. Its complement is a participial clause.

a. Abafana [bazinge [bebuza] imibuzo ekilasini

(The boys always ask questions in class)

b. Umalume [uzinge [eya] enkantolo ngoba efuna umsebenzi wokuba umabhalane.

(My uncle always goes to the court because he wants to be employed as a clerk).

(81) [**vele**]

The deficient verb **vele** reflects an action taken occasionally or as a habit. It is followed by verbs in the participial mood with their complements. This will be shown by the following sentences :

a. [Wayevele [eqe] isikole singakaphumi.

(He always left before the school time)

b. [Engadla upelepele [uvele [ekhale]

(After eating chillies she always cries)

(82) [**de**]



The deficient verb **de** reflects an action which always happens. The clause with **de** can be in the present, past or future tense. The clause following **de** will be in the participial mood:

- a. Present tense :  
[ngide [ngiya] khona  
(I always go there)
- b. Past tense :  
[Wayede [ecula] emabhaleni.  
(He always sang at the bars)
- c. Future tense :  
[Uzode [esivakashela] esikoleni.  
(He will always visit us at school).

(83) [**kholisa**]

**Kholisa** refers to what is usually being done. The deficient verb **kholisa** is usually used in the present tense and the past tense then followed by infinitive verbs. Consider these examples :

- a. Past tense :  
Umfowethu [wayekholisa [ukutshontsha] amalahle komakhelwane.  
(My brother usually stole coals from the neighbours)
- b. Present tense :  
UZodwa [ukholisa [ukucela] imali kumalume.  
(Zodwa usually asked for money from her uncle)

(84) [**dane**]

The deficient verb **dane** refer to an action which is performed on a regular basis. It can be used with the following tenses : present, future and the past. It is followed by participial clauses. This will be shown by the following examples :

- a. Present tense :  
[Udane [elwa] nezingane.  
(He usually fights with the children)
- b. Future tense :  
[Uzdane [ebamba] amatoho ngemigqibelo.  
(He will usually work part time on Saturdays)
- c. Past tense :  
[Wayedane [eshaya] izingane zikamakhelwane  
(He usually hitted the neighbours children).

(85) [**yaye**]

**Yaye** refers to a habit which has been formed. The deficient verb *yaye* is followed by a subjunctive clause.

- a. [Ngiyaye [ngidle] anduba ngiye esikoleni  
(I usually eat before I go to school)
- b. [Wayaye [avuke] kusemnyama aphuze itiyiye.  
(He always woke up whilst still dark and drank tea).

B : (86) [**jwayele**]

The deficient **jwayele** is used to indicate a habit which has been formed. It is derived from the verb **jwayela** (usually done). In all instances when this deficient verb is used it is followed by the infinitive clause whether the initial clause is in the present or past tense :



- a. Present tense :  
[Ngijwayele [ukuhamba] ngebhasi  
(I usually travel by bus)
- b. Past tense :  
[Wayejwayele [ukudoba] izinhlanzi entambana  
(He used to fish during the evenings)

C : (87) [**damane**]

The deficient verb **damane** refers to an action which is always done. The deficient verb **damane** appears with complement verb forms which are in the participial mood.

- a. Present tense :  
[Ngidamane [ngibashayela] ucingo.  
(I usually phone them)
- b. Future tense :  
[Uzodamane [eculisa] ikwaya esontweni  
(He will frequently conduct a choir in church)
- c. Compound tense :  
[Wayedamane [ehleka] uthisha uma sifunda  
(He always laughed at the teacher whilst we were learning)

D : (88) [**vama**]

**Vama** refers to an action which usually happens. This deficient verb is usually followed by the infinitive verb :

- a. [Bavama [ukuhamba] ekuseni uma beya emsebenzini.  
(They usually go in the morning to work)

- b. Umfula uMhlathuze [wawuvama [ukugcwala ngezimvula zasehlobo.  
(The Mhlathuze river was usually full during the summer rains)
- c. Izimvula [zivama [ukuna] ehlobo kwaZulu.  
(Rain usually falls in summer in Zululand).

(89) [**ye**]

The deficient verb **ye** carries the meaning of an action which is usually done. The deficient verb **ye** has a complement with the verb in the subjunctive mood :

- a. Ugogo [waye [apheke] isobho ebusika  
(Grandmother usually cooked soup during the winter)
- b. UZelda [uye [agqoke] ijezi elibomvu ebusika.  
(Zelda usually wears a red jersey during winter)

(90) [**vamise**]

The deficient verb **vamise** will give a meaning which refers to some action which is performed habitually. The deficient verb **vamise** is used in sentences which are followed by the infinitive clause.

- a. Umdayisi wobisi [uvamise [ukudlula] ekuseni.  
(The milkman usually passes by in the morning)
- b. Umkhulu [wayevamise [ukusixoxela ngezindaba zakudala  
(Grandfather usually told us about what happened long ago).



### 4.3.5.3 Genericity

A phenomenon commonly associated with genericity are propositions which do not express specific episodes or isolated facts but instead report a kind of general property, that is, report a regularity which summarizes groups of particular episodes or facts :

- (91) a. Ngidla inyama  
(I eat meat)
- b. Amadoda aphuza umqombothi  
(The men drink beer)
- c. Abafana bagazinga ummbila  
(The boys roast mealies)

The propositions in (91) do not report a particular episode but a habit, some kind of generalization or events. One can see that for instance (91a) does not state something about a specific meat but about meat in general, a generalization based on properties of an individual piece of meat. This second notion of genericity is a feature of the whole sentence rather than of any one NP in it. It is the whole generic sentence that expresses regularities which transcend particular facts. These sentences are characterizing sentences or generic sentences as they express generalizations. They are opposed to particular sentences which express statements about particular events, properties of particular objects and the like. Thus, there are characterizing predications as in (91).

Kind-referring NPs and characterizing sentences can occur combined in a single sentence as shown below.

- (92) Izinja ziyakhonkotha  
(Dogs bark)

Reference to kinds and characterizing sentences have something in common : with kinds we abstract away from particular objects whereas with characterizing sentences we abstract away from particular events and facts.

## Characterizing sentences

The sentences in (91) have been indicated as characterizing sentences. Such sentences which appear in the present tense are always ambiguous in Zulu and they may refer to a specific episode or they may refer to a regularity.

- (93) Ngidla inyama  
(I eat meat)

The proposition in (93) is an example of such an ambiguous sentences. In such cases the context of the sentence has to be noted.

But there are various constructions in Zulu which enforce a characterizing reading. In Zulu there are a number of deficient verbs which will result in characterizing reading :

- (94) a. Amadoda akholisa ukubhema  
(Men usually smoke)  
b. Abafazi bajwayele ukupheka  
(Women usually cook)  
c. Ngivamise ukudla inyama  
(I usually eat meat)  
d. Abantwana balokhu bephuza ubisi  
(Children always drink milk)

The neuter-passive morpheme [-ek] may also force a characterizing reading :

- (95) Inkulumo iyalandeleka  
(The speech can be followed)



#### 4.3.5.4 Frequentative

This term refers to actions or events which happen often or which are repeated many times.

(96) [**buye**]

The deficient verb **buye** refers to an action which is repeated on several occasion. **Buye** is derived from the verb **buya** (return). When the first clause has a present, future tense or a subjunctive mood, the complement of **buye** will be in the subjunctive mood. The matrix clause may also have a past tense or a consecutive and that would lead to its complement clause to have the consecutive. Consider the following examples :

a. Present tense :

Ubuye [adle] njalo ngisho nasebusuku

(He frequently eats even during the night)

b. Future tense :

[Uzobuye [acele] ukudla ebusuku

(He will again ask for food during the night)

c. Consecutive :

[Wadla [wabuye [wacela] amanzi

(He ate and even asked for water)

d. Subjunctive :

[Ngifuna] ukuthi [babuye [bacule]

(I want that they should sing again)

#### 4.3.5.5 Iterative

The aspect iterative refers to an action or event which is repeated one more time or once more :

(97) [**phinde**]

The deficient verb **phinde** indicates a repetition of an action, i.e. to do it again. The deficient verb **phinde** is derived from the verb **phinda** (repeat). **Phinde** can be used in the following tenses perfect, past and future. The clause with **phinde** can be followed by the subjunctive or consecutive clause. This will be illustrated by the following sentences :

## a. Perfect tense :

UBafana [uphinde [waphutha] esikoleni noma ubaba esemyalile ngako.

(Bafana absented himself again from school even though father has warned him about that)

## b. A- Past tense

[Waphinde [wathenga] imoto eyisibozi

(He again bought a scrap of a car)

## c. Future

[Uzophinde [adlale] amahashi kusasa noma engawini

(He will repeat playing horses tomorrow even though he does not win)

**4.3.5.6 Continuative**

This term refers to an action which continues without interruption or which are repeated over a period of time.

(98) [**babala**]

The deficient verb **babala** carries a meaning of doing something continuously. This deficient verb can be used in the present and the past tense. It is always followed by the participial clause in a sentence as shown by the following examples :

## a. Present tense :



Umalume [ubabala [ekhononda] ngezingane zakhe eziphutha esikoleni  
(My uncle complains continuously about his children who dodges the school)

b. Compound tense :

UMhlongo [wayebabala [ebalisa] ngabafana abantshontsha ummbila emasimini  
(Mhlongo complained continuously about boys who stole mielies from the farm)

(99) [**libele**]

The deficient **libele** is used to indicate the idea of doing something continuously. It is derived from the verb **libala** (forget). The deficient **libele** can be used in a present or past tense form. It is always followed by the verbs which are in an infinitive form :

a. Present tense :

Uthisha [ulibele [ukukhononda] ngezitshudeni ezingatadishi  
(The teacher keeps on complaining about students who do not study)

b. Compound tense :

[Wayelibele [ukuphuza] utshwala engabeki imali  
(He was busy drinking liquor and did not save his money)

(100) [**lo**]

The deficient verb **lo** indicates to keep on doing something. It can be used with the following tenses present, past and future. The clause following the deficient clause will always be in a participial mood. Consider these examples :

a. Present tense :

[Ngilo [ngisebenza] engadini zonke izinsuku  
(I keep on working in the garden every day)

b. Compound past tense

[Wayelo [ecela] imali engafuni ukusebenza

(He kept on asking for money he did not want to work)

c. Future tense :

[Uzolo [efuna] ukuyovusa izingane ngoba edakiwe

(He will want to wake up children because he is drunk)

(101) [**lokhu**]

The deficient verb **lokhu** indicates to keep on doing something. In all instances when this deficient verb is used it is followed by verbs in the participial mood. The deficient verb clause can either be in the present, past or future tense. Consider these examples :

a. Present tense :

UZodwa [ulokhu [edla] amagwinya zonke izinsuku uzokhuluphala

(Zodwa keeps on eating fatcakes daily she will get fat)

b. Compound past tense :

[Wayelokhu [etshontsha] izonkomo emapulazini waze waboshwa

(He kept on stealing cattle from farms until he was arrested)

c. Future tense :

[Uzolokhu [ebange] umsindo ngoba edakiwe

(He will keep on making noise because he is drunk)

(102) [**hambe**]

The deficient **hambe** means to do something constantly. It is derived from the verb **hamba** (go). The clause **hambe** can be used in the following tenses : present, past and future. The clause **hambe** is followed by verbs in a participial mood, as shown in the following sentences :

a. Present tense :

UFikile [uhambe [elwa] nabo bonke abantu ngisho nangabazi uzolimala ngolunye usuku.



(Fikile goes about fighting with everybody even those she do not know, someday she will get hurt)

b. Compound past tense :

[Wayehambe [ezincoma] ethi uhlakaniphile

(He kept on praising himself saying that he is intelligent)

c. Future tense :

[Ngizohambe [ngifuna] ozongilungisela imoto yami

(I will keep on looking for someone to fix my car)

#### 4.3.6 Other deficient verbs

There are various other deficient verbs which have a different range of meanings, i.e. they do not refer to aspect. A list of them will be included here to show the different range of meanings of these deficient verbs, other than aspect.

##### 4.3.6.3 Concessive

(103) [**dlule**]

Sikhiye imoto kodwa amasela [adlule [ayithatha]

(We locked the car but the thieves took it)

##### 4.3.6.4 Purpose

(104) [**qonde**]

Uhulumeni [uqonde [ukudiliza] imikhukhu

(The government mean to destroy the shacks)

(105) [**zondelele**]

Iziboshwa [zizondelele [ukweqa] ejele.

(The convicts aimed at escaping from jail)

#### 4.3.6.5 Obligative

(106) [**mele**]

UNontobeko uphekile ukudla okuningi [kumele [sidle] ngoba kuzonakala.

(Nontobeko has cooked a lot of food we ought to eat because it will get spoilt)

(107) [**kufanele**]

UNjabulo [kufanele [ageze] imoto yami ngoba ngiyamkhokhela.

(Njabulo must wash my car because I pay him for that)

(108) [**sale**]

[Asisale [sishanyela] igceke ngoba angeke asinikeze imali singakwenzile.

(we had better sweep the yard because he won't give us money without doing it.)

#### 4.3.6.6 Cause

(109) [**suke**]

Le ngane ayihluphi [isuke [ilambile] uma ikhala.

(This child is not troublesome she cries when she is hungry)

#### 4.3.6.7 Manner

(110) [**suke**]

Esikhathini esiningi uma ingane iganga [isuke [ingazi] ukuthi isiyona.

(In most instances when the child is naughty, does not realise that he is wrong).



(111) [**phose**]

[Ngiphose [ngagingqa] imoto ngenkathi ngihujwa izigebengu.  
(I almost overturn the car when I was chased by the hijackers).

(112) [**vele**]

[Ngivele [ngabona] ukuthi le moto izophuka endleleni ngoba ibichitha uwoyela enjinini.  
(I clearly saw that this car will break on the way because it was spilling oil from the engine).

(113) [**qale**]

[Uqale [athandaze] ngaphambi kokuba ashumayele  
(He starts by praying before he preaches).

(114) [**fike**]

[Ufike [athethe] engakawuboni umsebenzi esiwenzile.  
(He first scold us before checking the work already done).

(115) [**mane**]

[Umane [aphendule] umbuzo noma kanjani akhombise ukungalalelisisi.  
(He simply answers questions anyhow and shows signs of not listening carefully)

(116) [**simze**]

[Usimze [angene] indaba angayazi aphawule kakhulu futhi.  
(He simply interferes in matters he does not know and comment a lot).

(117) [**cishe**]

Uthembi [ucishe [washiswa] umlilo.

(Thembi was nearly burnt by the fire)

(118) [**sheshe**]

[Usheshe [athukuthele] uma nidlala naye yingakho simbalekela.

(He quickly gets angry whilst you are playing with him, that's why we dodge him).

(119) [**hle**]

[Angahle [angakuphenduli] ngoba unenkani.

(He might not answer you because he is stubborn).

(120) [**thathe**]

[UZanele [uthathe [wangithethisa] ngingenze lutho.

(Zanele just scolded me without any reason).

(121) [**babala**]

[Ngibabala [ngizifundele] ngingahluphi muntu.

(I just keep on reading without disturbing anybody).

(122) [**shaye**]

[Ushaye [wachitha] ngemoto egijinyiswa amaphoyisa

(He went off in a high speed when being chased by the police).

(123) [**sale**]

Baphuzile ukufika emcimbini [bazosale [bedla] amakhekhe ngoba inyama isiphelile.



(They delayed coming to the function, they will only eat cakes because the meat is finished).

(124) [-**thi**]

Angibathembi laba bantu [bathi [behamba] bebejeqeza emuva sengathi banovalo.

(I do not trust these people whilst moving they keep on looking back as if they are scared).

(125) [**vele**]

Angimangali uma eshayiwe [vele [uyadelela] uThoko.

(I am not surprised if she is beaten because Thoko is arrogant).

#### 4.3.6.8 Negative

(126) [**musa**]

[Musa [ukugibela] esihlahleni uzowa phansi uphuke.

(Do not climb the tree you will fall down and break).

(127) [**bange**]

[Asibange [simthole] kwakhe sesihambe ibanga elide lishisa ilanga.

(We never found him in his house after walking a long distance in the sun).

(128) [**bonange**]

[Angibonange [ngiyibone] ingane egijima kangakaya

(I have never seen a child running so fast)

(129) [**zange**]

[angizange [ngidle] namhlanje bengimatasatasa ngithunga ingubo edingeka kusasa.  
(I have never eaten today I was busy sewing a dress which is needed tomorrow).

(130) [**soze**]

[Angisoze [ngikuboleke] incwadi yami ngoba awubuyisi.  
(I will never borrow you my book because you do not return them back).

(131) [**ngeke**]

Leli qembu lebhola [ngeke [liwine] umdlalo ngomgqibelo ngoba alizilongi ngokwanele.  
(This soccer team won't win the match on Saturday because they did not practice sufficiently).

#### 4.4 CONCLUSION

One may conclude by saying that the Zulu language also falls in line with other languages as discussed by various linguists included in the beginning of the chapter in its expression of aspect. Aspect is expressed through the following features perfective and imperfective. These two features appear in three verbal forms, i.e. indicative, relative clauses and participial clauses. They always appear with the inflectional categories of tense and mood. The imperfective appears with the present and future tense whilst the perfective appears with the past tense.

The imperfective is also expressed by the morpheme **sa** and **ka** and **sa** is used to express the progressive. The perfective is identifiable by the suffix **-ile** and **-e** which is used to express completion. Aspectual references such as habitual, frequentative, iterative, continuation, resultative and duration can also be shown by different type of sentences. Various deficient verbs feature in the expression of aspect.



## CHAPTER 5

### 5. CONCLUSION

The study concentrated on three aspects of information which are presented in sentences. Sentences present information about aspectual situation types (events and states), viewpoint (traditional aspect) as well as the semantic feature of temporal location.

In the analysis of events and states in Zulu, attention has been focused on the contribution of two theories, i.e. the Two component theory of Smith (1997) and the Event Structure of Pustejovsky (1995) which is situated within the Generative Lexicon theory of lexical semantics.

With regard to the views of Smith (1997) the following issues have been found to be relevant to Zulu : there are four situation types which may be distinguished from each other by the temporal features of static/dynamic, telic/atelic and durative/ instantaneous. The situation types may also feature derived-level situation types and they may appear in certain specific verb classes with a certain verb constellation.

The first situation type is an activity. An activity indicates a dynamic situation which is continually subject to a new input of energy and take place in time. An activity consist of successive stages which recur at different moment. It indicates a process in which things are happening or being done. The following verb classes may feature activities :

**Performance verbs** refer to activities in which a person carries out a piece of work or a duty for example :

- (1) UZodwa **uyacula**  
(Zodwa is singing)

**Cooking verbs** describes different ways of preparing food as illustrated by the following sentence :

- (2) UThemba **uyabhaka**

(Themba bakes)

**Communication verbs** reflect an interaction between various participants in which some information or opinion are made known by speech or writing, for example :

- (3) UThoko **uhleba** ngoThandi  
(Thoko gossips about Thandi)

**Motion verbs** refer to an activity or process of moving in which one changes place or position. Consider the following example sentence :

- (4) Imoto **iyanyonyoba**  
(The car moves slowly)

**Weather verbs** refer to the description of conditions of a particular area at a specific time with reference to sunshine, wind, rain, snow etc. as follows :

- (5) Imvula **iyayidliva**  
(The rain is pouring)

**Wipe verbs** relate to cleaning, removing or dry by cloth paper or hands things from surfaces or containers, for example :

- (6) UNondumiso **usula** amanzi emafasiteleni.  
(Nondumiso wipes water from the windows)

**Remove verbs** relate to taking away of an entity from a location as shown by the following example :

- (7) Ugogo **ukhipha** ukudla ebhodweni  
(Grandmother removes food from the pot)



**Verbs of searching** refer to examining or looking carefully for something. Consider the following sentences :

- (8) Umkhulu **ucinga** izibuko zakhe.  
(Grandfather is searching for his glasses)

**Verbs of bodily care** relate to taking care or grooming of the whole body, for example :

- (9) UZozo **ugeza** umzimba  
(Zozo washes the body)

These activity verbs from different verb classes have temporal features such as dynamic, atelic and durative. They can stop at any time, they do not come into a stage of being completed. They may stop at intervals and that reflect an instance of the whole process. They have no outcome and can stop at anytime. They are dynamic and consist of successive stages which recur at different moments. They last for a certain period of time.

The second situation type is an accomplishment. An accomplishment may be described as an event that is successfully completed and which results in a change of state which reflects the completion of process. The event reaches an outcome or goal. Accomplishment may appear in the following verb classes :

**Creation verbs** refer to a creation of a product through a transformation of raw materials or an entity from one form to another, for example :

- (10) Ugogo **ubumba** ukhamba  
(Grandmother moulds a calabash)

**Verbs of ingesting** relate to the taking in or swallowing of food. Swallowing of food reflects the completion of an event as in below :

- (11) Amadoda **aphuze** utshwala  
(The men drank liquor)

The temporal features of this situation type are dynamic, telic and duration. The event becomes completed when a process with a natural final endpoint reaches its outcome and the event cannot continue.

Activities and accomplishment may appear as derived-level situation types. Firstly this can appear as multiple-event activities. The internal stages of multiple-event activities consist of subevents. They include event which consist of a series of events. They may be found with events of all types. They take durative adverbials. Consider the following example :

- (12) **Ngihambe** amahora amathathu  
(I walked for three hours)

Some sentences with activity verbs are changed into sentences that denote the notion of accomplishment verbs when an expression of direction or goal is added as shown by the following example sentence.

- (13) **Ngihambe** amakhilomitha amabili  
(I walked for two kilometers)

Secondly, when countable arguments are added into sentences a shift of meaning is experienced. A sentence might denote an accomplishment but with the presence of a bare plural denotes an activity, for example :

- (14) a. UZanele **udle** amaswidi  
(Zanele ate sweets) (activity)
- b. UZanele **udle** uswidi  
(Zanele ate a sweet) (accomplishment)



Lastly a count noun may change a telic event to become atelic when the argument which is a count noun is replaced by a locative. Consider the following sentences :

- (15) a. **funda** incwadi  
(read a book) accomplishment
- b. **funda** encwadini  
(read a book) activity

The third situation type is an achievement. Achievements are defined as events that are instantaneous in nature and they result in change of state. The change has a point-like quality to it. There is a point adverbial modification of time indicating when the event took place denoting achievement. The achievement situation may be illustrated by the following verb classes :

**Break verbs** refers to an action that cause to come into two or more separate parts as the result of force and that occurs instantaneously, for example :

- (16) Izigebengu **ziphule** umnyango ekhishini.  
(The thugs broke the door in the kitchen)

**Appoint verbs** refer to an action of choosing a person for a post or choosing members for a certain work or entity for a particular work as illustrated below :

- (17) Abafundi **baqoke** umphathi wabo namuhla  
(The students elected their leader today)

**Bend verbs** refer to an action that cause a straight line or neat surface or entity into a curve. They indicate a change in shape of an entity and they occur instantaneously for example :

- (18) Uzodwa **ugoqe** indwangu yetafula  
(Zodwa folded the table cloth)

**Verbs of disappearance** these verbs refer to go out of sight or to vanish and not be seen any more. The action takes place quickly in an instantaneous manner as illustrated by the following example sentence :

- (19) Utsotsi ushone nto-2  
(The thug died at 2pm)

**Verbs of appearance** these verbs relate to come into view, become visible or coming before the public. This action takes only several seconds to occur, for example :

- (20) Ilanga **liphume** ngo-5  
(The sun rose at 5 am)

**Motion verbs** refer to the action of moving from one place to another to reach a certain destination. Consider the following sentence :

- (21) Umkhumbi **usuke** ngo-4  
(The ship departed at 4 p.m)

**Verbs of change of possession** this action refers to a transaction of change of ownership which occurs instantaneously.

- (22) I Chief **izuze** indebe ebholweni  
(Chief won a trophy from soccer)

Achievements are events that are instantaneous in nature and they result in change of state. Their temporal properties are dynamic, telic and instantaneous. They have the features completion and detachability.

The fourth situation type refers to states. States may be described as stable situation which are conceived of as existing rather than happening and as homogeneous, continuous and unchanging throughout its duration. Two kinds of state can be



distinguished, i.e. the individual-level and stage-level. States may be found in the following instances :

**Adjectival or relative predicates** because these predicates retain their properties throughout the lifetime and can be identified with the individual directly. Consider the following examples :

### **Adjective**

- (23) Ubaba **omdala** uyadla  
(The old man is eating)

### **Nominal relative stem**

- (24) Ingane **eqotho** ikhuluma iqiniso  
(The honest child speaks the truth)

**Conjecture verbs** relate to putting forward of an opinion without facts or proof, as shown below :

- (25) UGela **uqagela** impendulo  
(Gela guesses the answer)

**Experiencer verbs** relate to psychological verbs that refer to exclusively mental state, for example :

- (25) Lo mfana **uyahlanya**  
(This boy is mad)

**Verbs of existence** relate to the existence of an entity at some location which may be a temporary one, for example :

- (26) Iziboshwa **zihlala** ejele  
(Convicts stay in jail)

**Verbs of bodily position** refers to state of being, the situation that affects the body. This may last for a certain period such as the following example sentence show :

- (27) Le ngane **izacile**  
(This child is thin)

**Generic predicates** relate to an action common to a whole group of class, and they hold for a certain interval as illustrated below :

- (28) Izinhlanzi **zitshuza** emanzini  
(Fish swim in the water)

**Habitual predicates** relate to what occurs regularly at certain intervals and they are not permanent they may change at any time, for example :

- (29) Izingane **zicula zonke izinsuku**  
(The children sings everyday)

**Verbs of posture** relate to the holding of a body in a certain position. Consider the following sentences :

- (30) Abafana **bahlezi** phansi  
(The boys are sitting down)

States reflect stable situations which hold for a moment or an interval. Their temporal features are static and durative. States require external agency for change because they have no dynamics.



According to Pustejovsky (1995) the Generative lexicon involves various levels of representation of which event structure is one such level. Three event types have been identified for Zulu, i.e. state, process and transition. They may be defined as follows :

State (S) : a single event which is evaluated relative to no other event, it describes the form the subject finds itself in.

(31) Example : Ubaba **uyagula**  
(Father is sick)

Process (P) : a sequence of events identifying the semantic expression.

(32) Example : Ingane **igijima** egcekeni  
(The child runs in the yard)

Transition (T) : an event identifying a semantic expression which is evaluated relative to its opposition. When the outcome of the process is reached a new state is formed. These events may be considered as complex semantic objects which are composed of sub-events.

(33) Example : UJabu **uphule** ingilasi (achievement)  
(Jabu broke the glass)

UZobolo **wakha** indlu (accomplishment)  
(Zobolo built a house)

Such an extended event structure can be represented by different types of relations between an event and its sub events. The three relation between two sub events are the following :

### **Temporally ordered sub events**

The event  $[e_3]$  is a complex event structure with two subevents  $[e_1, e_2]$  where  $[e_1]$  and  $[e_2]$  are temporally ordered such that the first event  $[e_1]$  precedes the second event  $[e_2]$ ,

while each is a logical part of  $[e_3]$  and there is no other event that is part of  $[e_3]$ . This can be illustrated by the following example :

- (34) U Vera uphula izingilasi  
(Vera breaks the glasses)

### Simultaneous sub event

The event  $[e_3]$  may be composed of two completely simultaneous subevents. For example :

- (35) U Jabu uzophekezela uThandi [esitolo] (telic) (goal)  
(Jabu will accompany Thandi to the store)

### Temporal overlap

The event  $[e_3]$  contains two subevents  $[e_1, e_2]$  where  $[e_1]$  starts before  $[e_2]$ , but there is a temporal overlapping relation between the sub events. Verbs such as **hamba** (walk) and **gijima** (run) are analyzed as involving this subeventual structure, where two motion processes are structured in an overlapping relation, i.e. the efficient motion of the legs bringing about the final motion of the body.

Lastly, the event structure can be distinguished through event headedness which gives rise to twelve possible constructions :

### Temporally ordered sub events

- a.  $e_1$  (head)  $e_2$  : accomplishments with creation verbs, e.g. **akha** (build)  
Sakhe indlu  
(We built a house)
- b.  $e_1e_2$  (head) : achievements with change of state, e.g. **ifa** (die)  
Ingane yami ifile  
(My child is dead)



- c.  $e_1$  (head)  $e_2$  (head) : transtions with 3 arguments : the events involve a relational predicate on each sub-event :  
distransitive verbs such as **nika** (give)  
Ngizonika ingane ukudla  
(I will give the child food)
- d.  $e_1e_2$  (no head) : unheaded polysemy : headless event structures admit of 2 possible interpretations : causative / unaccusative verbs such as **phula** (break) / **cwila** (sink) : when head is  $e_1$  = transitive, when head is  $e_2$  = intransitive.  
Transitive : Ngigobe ucingo  
(I bent the wire)  
Intransitive : Ucingo lugobile  
(The wire has bent)

### Simultaneous sub events

- a.  $e_1$  (head)  $e_2$  one only is focused by the lexical item such as **thenga** (buy).  
Ngithenge amaswidi enkosikazini  
(I bought sweets from the woman)
- b.  $e_1e_2$  (head) one only is focused of the 2 subevents by the lexical item such as **thengisa** (sell)  
Ngithengise amaswidi ezinganeni  
(I sold sweets to the children)
- c.  $e_1$  (head)  $e_2$  (head) **phekezela** (accompany)  
Ngizokuphekezela edolobheni  
(I will accompany you to the town)
- d.  $e_1e_2$  : headless : argument inversion predicates such as **thela** (rent)  
Sithela indlu kumniniyo  
(We rent a house from the owner)

## Temporal overlap

- a.  $e_1$  (head)  $e_2$  : motion verbs **hamba** (walk)  
 Sihambe amahora amane  
 (We walked for 4 hours)
- b.  $e_1e_2$  (head) : **hambela** ekhaya (walk home)  
 Sihambela ekhaya  
 (We walked home)
- c.  $e_1$  (head)  $e_2$  (head) : ( ) no verb fits into this category.
- d.  $e_1 e_2$  (headless) raising / control predicates such as **qala** (begin)  
 Sizozala ukuhlakula umhlaba  
 (We will begin to plough the land)

The information about temporal location in sentences concentrated on the viewpoint of Reichenbach as developed by Hornstein (1990). According to Hornstein, Reichenbach represents tenses by E and S where E is the event time and S the moment of speech. The relationship between S and E is mediated via a reference point R. in the case of Zulu, the four basic tenses can be represented as follows :

Present tense : S, R, E

Perfect tense : E, R, \_\_\_ S

A- past tense : E \_\_\_ R \_\_\_ S

Future tense : S \_\_\_ R, E

In Zulu these Basic Tense Structure (BTS) may be explained as follows :

S, R, E : the moment of speech S is happening during the same period of time with the reference point R and E reflects the events time which is now. E is at S, for example :

## Short present tense



- (36) Abafana badlala ibhola  
(The boys are playing football)

E, R \_\_ S : with the perfect tense the event time E is existing at the same instance with the reference time R, together they are temporally earlier than the moment of speech S. Consider this example :

- (37) Umama udlile  
(Mother has eaten)

E \_\_ R \_\_ S : the event time E is earlier than the reference point and the reference point is earlier than the moment of speech S. The event occurred before the utterance which is now, for example :

- (38) Inja yalunywa yinyoka  
(The dog was bitten by a snake)

S \_\_ R, E : the moment of speech S occurs prior to the occurrence of an event. E is placed some time in the future in relation to the moment of speech as shown by the following sentence :

- (39) Ngizoya eGoli  
(I will go to Johannesburg)

Adverbs may modify tense and contribute to complex tense structures, i.e. Derived Tense Structures (DTS). With the present tense the DTS is similar to the BTS the inclusion of an adverb does not alter anything. Both structures have well-formed DTS which leave the BTS unchanged. For example :

- (40) Abafana badlala **manje**  
(The boys play now)

BTS

DTS

= S, R, E manje &gt;

S, R, E

|  
manje (now)

The BTS for the perfect tense in Zulu reflect the following structure E \_\_ R, S and the DTS has the following structure E \_\_ R, S. The inclusion of the adverb do not affect the grammaticality of the sentences when used with the perfect tense. The adverb picks out the speech time and modify R which is associated with S. the modification by the adverb shifts the moment of speech (S) and the reference point (R) to the right of the event time (E) – giving us the reading : the event is positioned as temporally earlier than the S and R-points. The linear order of points in the DTS is the same as that in the BTS. Consider the following example :

- (41) Umama udlile **izolo**  
(Mother ate yesterday)

BTS

DTS

= E, R \_\_ S izolo &gt;

E \_\_ R, S

|  
izolo (yesterday)

With the A-past the DTS structure does not alter the BTS. The DTS is grammatically well formed. In both the BTS and DTS the structures are E \_\_ R \_\_ S. The inclusion of the adverb do not change anything, for example:

- (42) Inja yalunywa yinyoka **kudala**  
(The dog was bitten by a snake long ago)



BTS	DTS
= E __ R __ S kudala >	E __ R __ S
	kudala (long ago)

The future tense in Zulu has the BTS S \_\_ R, E. The inclusion of an adverb yields the following DTS : S, R \_\_ E. The linear order of points is the same as that in the DTS, i.e. no change is reflected in the linear order of the S, R, E-points in DTS. The adverbial modification places the event time (E) and R-time to the extreme right of the S-point (occupying leftmost) in the DTS giving us the interpretation of the S-point having taken temporally earlier than the R- and E-points. Consider the following example :

(43) Ngizoya eGoli **kusasa**

(I will go to Johannesburg tomorrow)

BTS	DTS
= S __ R, E kusasa >	S, R, __ E
	kusasa (tomorrow)

Lastly, viewpoint aspect has been explored for Zulu. The traditional term aspect has been retained for this contribution of the meaning of aspect to the sentence. The research on aspect in Zulu has given the following results :

In the first place, a clear distinction has been established between perfective and imperfective aspect in Zulu. These concepts may be defined as follows : **perfective** expresses an action which has been completed in the past. The action has been terminated, therefore the event has been closed, e.g. Ingane **idlile** (the child has eaten). **Imperfective** indicates that the action is in progress and does not show when the action

has started or when is it going to end and have its final results, e.g. Ingane **iyadla** (the child is eating). The aspect perfective and imperfective in Zulu appears as an inflectional category within syntax. There are five inflectional or functional categories in Zulu, i.e. mood, tense, agreement, negative and aspect. Each of these categories may have a maximal projection according to the X-bar theory. Thus the category ASP will have a maximal projection ASPP (Aspect phrase).

The feature imperfective may appear in an Indicative and a Relative clause. Such a feature always has to appear with the inflectional categories of tense and mood. Only the two tenses, Present and Future tense will allow this aspectual feature. Consider the following sentences :

### **Imperfective with Indicative and Relative clause**

- (44) a. Ingane iyakhala  
(The child is crying) (indicative)
- b. Yingane ekhalayo  
(It is the child that is crying) (relative).

The perfective also may appear with the Indicative and Relative clause. The perfective can only appear in the past tense and allows the inflectional categories of tense and mood. Consider the following sentences :

### **Perfective with Indicative and Relative clause**

- (45) a. Ingane ikhalile  
(The child has cried) (indicative)
- b. Yingane ekhalile  
(It is the child who has cried) (relative)



The ASP appears with two types of participial clause, i.e. simultaneous clauses and compound tenses with a participial clause as a complement. The participial clause has a dependent mood therefore it never appears in a matrix clause. It occurs in a subordinate clause where the action takes place simultaneously with another action. It is dependent on another moods.

In the second place a **resultative** has been established. The resultative denotes some actions committed in the past which resulted into a particular state. It focuses on what result came about after a change of state, as illustrated by the following examples :

- (46) a. With stative verbs  
 Uthisha **uthukuthele** ngoba asiwenzanga umsebenzi.  
 (The teacher is angry because we did not do the work)
- b. With verbs of change of state  
 Ukhamba **luphukile**  
 (The calabash is broken)

In the third place, a distinction of **duration** has been found. The term duration refers to durative situations which have both a beginning and an end but at different points in time. Between their beginning and end they have many temporal phases. Durative situations may be expressed in Zulu by various deficient verbs as well as by two durative morphemes, i.e. [sa] and [ka]. The reference to aspect with the deficient verbs is lexical and not inflectional. Consider these examples :

- (47) a. With deficient verb **vele**  
 [Uvele [agule] unyaka wonke.  
 (He simply gets sick for the whole year)
- b. With the morpheme **-sa-**  
 Umama usapheka ukudla.  
 (Mother is still cooking the food)

- c. With the morpheme **-ka-**  
Asikahambi  
(We have not yet left)

In the fourth place, the **habitual** has been distinguished. The term habitual includes terms such as frequentative, iterative and continuative. The aspectual reference in all these cases is lexical by nature because their reference is within the deficient verb which is in the lexicon. It may be expressed by the following :

**Habitual** refers to a customary action or event which is characterized by frequent repetition, as expressed by : deficient verbs – some deficient verbs carries a meaning of an action which always take place, as well as genericity which carries propositions that report a regularity which summarizes groups of particular episodes or facts. Consider the following examples :

- (48) a. With deficient verb **hlale**  
[Ngihlale [ngilima] lingakaphumi ilanga  
(I always plough the fields before the sun rise)
- b. Genericity  
Ngidla inyama  
(I eat meat)

**Frequentative** refers to actions or events which happen often or which are repeated many times, for example :

- (49) [Ubuye [adle] njalo ngisho nasebusuku  
(He frequently eats even during the night)

**Iterative** refers to an action or event which is repeated one more time or once more as shown by the following example :



- (50) [Uphinde [wathenga] imoto eyisibozi  
(He again bought a scrap of a car)

**Continuative** refers to an action which continues without interruption or which are repeated over a period of time, for example :

- (51) Uthisha [ulibele [ukukhononda] ngezitshudeni ezingatadishi  
(The teacher keeps on complaining about students who do not study)

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