

# **A LEXICAL SEMANTIC ANALYSIS OF SELECTED VERBS IN NORTHERN SOTHO**

**BY**

**MACTION NKGOROPHASHA**



Assignment presented in partial fulfilment of the requirements for the degree of Master of Arts at the University of Stellenbosch.

**Study leader: Prof. MW Visser**

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## DECLARATION

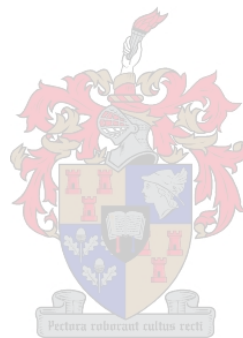
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## ABSTRACT

The main purpose of this study is to investigate the properties of selected monotransitive verbs in Northern Sotho as regard their argument structure and event structure. These Northern Sotho verbs will be examined within the general theoretical framework of Generative Lexicon Theory postulated by Pustejovsky (1996). This theory is in essence concerned with the account of word meaning as it relates to lexical semantic properties of lexical items in composition with other lexical items in a sentence. The arguments of the Northern Sotho verbs examined will include an agentive subject argument, the external argument, and a patient/theme object argument, the internal argument. In addition, a locative internal argument occurs in the sentences, which may have the status of a true argument, a shadow argument, or a default argument, in Pustejovsky's classification of arguments.

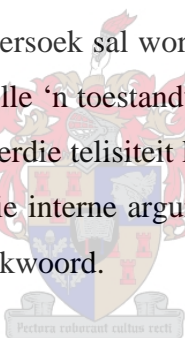
The Northern Sotho verbs examined demonstrate accomplishment events in that they entail a change of state and are telic (i.e. they have a logical culmination or endpoint). This telicity property of the verb is often the result of the occurrence of the internal arguments, i.e. the patient/theme argument and locative argument of the verb.

The verb classes examined for Northern Sotho include (i) verbs of putting, (ii) verbs of removing, (iii) verbs of sending and carrying, (iv) verbs of exerting force/push/pull verbs), (v) verbs of change of possession, (vi) learn verbs, (vii) verbs of throwing, (viii) verbs of contact by impact, (ix) verbs of cutting, (x) verbs of separating and disassembling, (xi) verbs of creation and transformation, (xii) verbs of communication, (xiii) verbs of ingesting, (xiv) verbs of change of state, and (xv) verbs of motion.

## OPSOMMING

Die hoofdoel van hierdie studie is om die eienskappe te ondersoek van geselekteerde Noord Sotho werkwoorde ten opsigte van hulle argument struktuur en gebeurtenis ('event') struktuur. Hierdie Noord Sotho werkwoorde sal ondersoek word binne die teoretiese raamwerk van Generatiewe Leksikon-teorie, soos gepostuleer deur Pustejovsky (1996). Hierdie teorie hou wesenlik verband met die verklaring van woordbetekenis soos dit manifesteer in die leksikaal-semantiese kenmerke van leksikale items in 'n sin in samehang met ander leksikale items in die sin. Die argumente van die Noord Sotho werkwoorde wat ondersoek word, sal insluit 'n agentiewe subjek argument, die eksterne argument, en 'n patient/tema objek argument, die interne argument. Verder verskyn 'n lokatiewe argument in die sinne, wat die status kan hê van 'n ware argument, 'n skadu argument of 'n verstek argument, in Pustejovsky se klassifikasie van argumente.

Die Noord Sotho werkwoorde wat ondersoek sal word, demonstreer 'n bereiking gebeurtenis ('accomplishment event') aangesien hulle 'n toestandverandering behels en telies is (d.w.s. 'n logiese kulminasie of eindpunt het). Hierdie telisiteit kenmerk van die werkwoorde is dikwels die resultaat van die verskyning van die interne argumente, dit is, die patient/tema argument en die lokatiewe argument van die werkwoord.

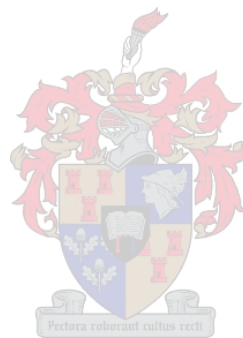


Die werkwoordklasse wat ondersoek word vir Noord-Sotho sluit in: (i) werkwoorde van plasing, (ii) werkwoorde van verwydering, (iii) werkwoorde van stuur en dra, (iv) werkwoorde van fors uitoefen (trek / en stoot-werkwoorde); (v) werkwoorde van verandering van besitting, (vi) leer-werkwoorde; (vii) werkwoorde van gooi, (viii) werkwoorde van kontak deur impak, (ix) sny-werkwoorde, (x) werkwoorde van skei, (xi) werkwoorde van skep en transformasie, (xii) kommunikasie-werkwoorde, (xiii) werkwoorde van inneem, (xiv) werkwoorde van toestandsverandering en (xv) bewegingswerkwoorde.

## ACKNOWLEDGEMENTS

I would like to thank my study leader, prof M.W. Visser for her encouragement and support in completing my study.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1. PURPOSE AND AIM OF STUDY

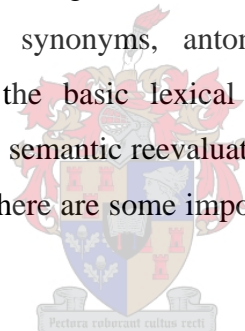
The primary purpose of this study on the lexical semantics analysis of selected verbs in Northern Sotho is to examine the argument structure and event structure properties of verbs from various verb classes in relation to their occurrence with modification by locative adverbials. By studying the analysis of selected verbs in Northern Sotho I aim to address the thematic description and explanation of various classes of verbs in the sentences examined. The lexical semantic analysis of selected verbs, I compares and explains the argument structure and event properties. The lexical semantic analysis of selected verbs will demonstrate the core predicate argument structure of these verbs in conjunction with their aspectual properties. The verb classes examined for Northern Sotho verbs include examples of: (i) verbs of putting, (ii) verbs of removing, (iii) verbs of sending and carrying, (iv) verbs of exerting force (push/pull verbs), (v) verbs of change of possession, (iv) **learn** verbs, (vii) **hold** and **keep** verbs, (viii) verbs of cutting, (ix) verbs of combining and attaching, (x) verbs of separating and disassembling, (xi) verbs of creation and verbs of ingesting, and (xii) verbs of motion.

The lexical semantic representation for each of the verbs is specified for each individual verb. The analysis of the verbs illustrate a subject argument, often bearing the thematic role of Agent, and an object argument, as well as the default argument. The lexical semantic analyses of selected verbs illustrate that every sentence in (a) demonstrates the co-occurrence of object argument with its agreement prefix. The various sentences demonstrate an accomplishment event or situation type. The sentences occur with a temporal durative adverbial in the sentence in (ii) of (1a – 70a).

## 1.2. THEORETICAL FRAMEWORK

This study assumes the theoretical framework of the Generative Lexicon posited by Pustejovsky (1996). Pustejovsky posits a lexical semantics model generative lexicon theory, which deals with the semantics of words both alone and in combination. He defines lexical semantics as the study of how and what the words of the language denote. Pustejovsky points out that computational and theoretical linguists traditionally regarded lexicon as static set of words, senses, tagged with syntactic, morphological and semantic information. He states that formal theories of natural language semantics address two important issues, namely the creative use of words in novel contexts and an evaluation of lexical semantics models on the basis of compositionality.

Pustejovsky argues that there is an interaction of word meaning and compositionality. The theory of lexical meaning affects the general design of a semantic theory in many ways. The goal of semantic theory is accounting for synonyms, antonymy, polysemy and metonymy. The compositionality depends on what the basic lexical categories of the languages denote. Pustejovsky maintains that the lexical semantic reevaluate the nature of semantic composition in language. According to Pustejovsky, there are some important issues regarding lexical semantics that need to be considered:



Firstly: Pustejovsky addresses some basic issues in lexical representation and presents the current view on how to represent lexical ambiguity in computational theoretical models. Pustejovsky states that there is a view, which corporates sense enumerative techniques and distinguishes word senses on the basis of finite features. He refers to Weinreich who views word senses as contrastive and complementary ambiguity. The contrastive view entails basic homonymy, where a lexical item accidentally carries a several distinct and unrelated meanings. Complementary ambiguity entail logically related word senses of the same lexical item.

Secondly, Pustejovsky states, careful representation of work has been done on verb classes. The several devises simplify the semantic description, which fall outside the conception of the enumerative lexicon. A core set of word senses is used to generate a larger set of word senses. Pustejovsky states that the model of semantic interpretation should reflect the particular

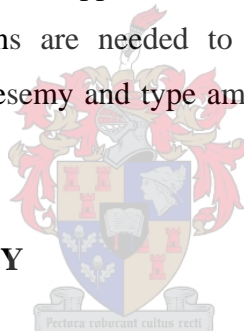


properties and difficulties of natural language. Natural languages fall within the polymorphic languages, rather than monorphic languages.

Pustejovsky states that the generative theory of the lexicon includes multiple levels of representation for different types of lexical information needed. These levels are:

1. Argument structure: for the representation of information for functional elements.
2. Event structure: for the representation information related to event type.
3. Lexical inheritance structure: for the representation of the relation between lexical item and others in lexicon.
4. Qualia structure: for the representation of the defining attributes of an object such as its consistent parts, purpose and function.

Pustejovsky explores the presentation of application of the mechanisms to the polymorphic behavior of language. The operations are needed to adequately account for the syntactic expressiveness of semantic types. Polesemy and type ambiguity are a result of several semantic phenomenon in specific interaction.



### 1.3 ORGANIZATION OF STUDY

This study examine 70 sets of sentences used from different types of verb classes which demonstrate the complexity of the verbal category. One of the classes, for example break verbs, refer to actions that bring about a change in the material integrity of some entities. The instrument, by which the change of state refers come about, may also appear as the subject of the sentence. Bend verbs, which have been used, relate to a change in the shape of an entity that does not disrupt its material integrity. Every verb in the sentence is illustrated as a monotransitive because it has a two – place predicate with subject argument bearing the thematic role of agent and the object argument.

The lexical semantic representation for each verb in Northern Sotho reflects structural and event structural properties. Every verb has its own structure, which looks more or less the same but when coming to the formal and agentive there is a difference. As regard the default argument,

(D.AGR1) most of the verbs in the sentences have a place or location argument. In every structure especially on AGR2 which all the sentences have physical objects which are inanimate and represent D-ARG 2 which denote the instrument, which is also inanimate. As regard event structure, a process and resulting accomplishment occur in every sentence.

All the verbs examined are performed at a certain place, which is a source argument, called a default argument, for example Ramaesela eats porridge on the plate. Default arguments are parameters which participate in the logical expressions in the qualia, but which are not necessarily expressed syntactically. e.g. I carved an elephant out of wood. Because the material wood is optional, its status as an argument is different from the created object (elephant). Such optional argument in alternation such as the product above is called a default argument.

The study examines the nature of the event (or situation) types of sentences with selected verbs in Northern Sotho. Four event types, namely states, processes, accomplishments and achievements are generally distinguished (cf Smith 1997, Kearns 2000). Accomplishment consists of a process followed by a resulting state. The change is the completion of the process. Accomplishments are finite, intrinsically bounded. They have temporal features such as Dynamic, Telic and Durative. Accomplishments have successive stages in which the process advances to its natural final endpoint. The relation process and outcome of an accomplishment is known as non-detachability. Not all accomplishments are complete.

States are stable situations, which hold for a moment or an interval. They have temporal features, e.g. Static, and Durative. States consist of an undifferentiated period without internal structure. They have no dynamics and require external agency for change. States include concrete and abstract properties of all kinds, possession, location and other mental states, Derived states include sentences of generic predication. Generic sentences vary widely in syntactic properties. Habitual sentences are another type of derived stative.

Achievements are instantaneous events that result in a change of state. Their properties Dynamics, Telic and Instantaneous. Typical achievements are changes of state that occur very

quickly. the lexical span may focus on the outcome of a chain of events. Many achievements allow agent-oriented adverbials, other do not.

This study is further organised as follows:

Chapter Two presents an in-depth review of Generative Lexicon Theory as postulated by Pustejovsky (1996). The nature of polysemy, i.e. logically related word senses of the same word, is accounted for in Pustejovsky's theory through four levels of representation, namely argument structure, event structure, qualia structure and lexical inheritance structure.

Chapter Three investigates the argument structure and event structure properties of 70 selected verbs from a wide range of verb classes in Northern Sotho.

Chapter four present the conclusion of the study.



## CHAPTER TWO

### THE FRAMEWORK OF GENERATIVE LEXICON THEORY

#### 2.1 INTRODUCTION

In his book **The Generative Lexicon** Pustejovsky reviews previous research about the nature of Lexical knowledge. He observes that theoretical and computational linguistics studies cover various aspects regarding the lexicon. Most linguistic frameworks assume that much of the structure information of a sentence is best encoded from lexicalized perspectives.

Pustejovsky identifies the following are the most pressing problems:

5. Explaining the polymorphic nature of language.
6. Characterising the semantically of natural language utterances.
7. Capturing the creative use of words in novel contexts.
8. Developing a richer, co-compositional semantic representation.

Pustejovsky postulates that linguistic studies can be informed by computational tools for lexicology as an appreciation of the computational complexity of large lexical databases. Computational research can profit from an awareness of grammatical and syntactic distinction of lexical items. He points out that fields of linguistics and Natural Language Processing are insufficient without the help of electronic dictionaries and computational lexicographic analyses.

Pustejovsky considers two assumptions for a lexical semantic framework.

- a. Without an appreciation of the syntactic structure of a language, the study of lexical semantics will not be successful.
- b. The meanings of words should reflect the deeper conceptual structure.

The semantics of natural language should, according to Pustejovsky, be the image of non-linguistic conceptual organizing principles. Computational lexical semantics should be guided by the following principles.

- A clear notion of semantics well formedness will be necessary in order to characterize a theory of possible word meaning,
- With the thematic roles are too course-grained to provide a useful semantic interpretation of a sentence, what is required is:
  - (a) a rich, recursive theory of semantic composition,
  - (b) notion of semantic well formedness,
  - (c) an appeal to several levels of interpretation in semantics.
- Lexical semantics must study all syntactic categories in order to characterize the semantics of natural language.

Pustejovsky suggests that the lexicon must encode information for categories other than verbs. He proposes that the position of lexical research should be within the larger semantic picture. The representation of the context of an utterance should be viewed as involving many generative factors.

Pustejovsky argues that there must be a global coherent representation when local inferences are integrated together. The basic result of such a view is that semantic interpretation proceeds in a principled fashion. The representation of lexical semantics should be seen as one of the many levels in a richer characterization. Pustejovsky points out that there are some methods, which have been used for semantic classification of lexical items and characterize the richness of the problem of representing lexical semantics. It is the goal of any lexical semantic theory to classify lexical items of a language into classes' predicative of their syntactic and semantic expression.

## **2.2 SEMANTIC CLASSES OF LEXICAL KNOWLEDGE**

Pustejovsky suggests that the most fundamental aspect of a word's meaning is its semantic type categorical information which determines not only how word behaves syntactically but also what the element of the category refers to. The noun man would pick out the set of all-individuals in the world who are men. The lexical semantics distinguishes selectional subsets of members of the categories. Pustejovsky explains that the nouns water and cat partition into different

selectional classes due to contexts involving animacy, while the noun water and milk partition into different selectional classes due to a concrete mass nouns.

### 2.3 CONTRASTIVE RELATIONS

As regard verbal alternation construction, Pustejovsky suggests that the linguistic methodology for grouping the meanings of words into semantic classes is to study the syntactic patterns that words participate in. The verbs sinks; roll and break all have both transitive and intransitive counterparts:

9. a. The saucer broke easily.
- b. James broke the saucer easily.
10. a. The TV aerial died tonight.
- b. John died my TV aerial tonight.
11. a. The courier arrived on time.
- b. The postman arrived the courier on time.

Lexical semantics should, according to Pustejovsky, specify what it is that these two classes share. Other useful patterns include the conative.

12. a. Jack throw a bird.
- b. Jack throw at a bird.
13. a. Paulina see the window.
- b. Paulina see through the window.
14. a. Elizabeth is writing her parent.
- b. Elizabeth is writing for her parent.

Pustejovsky proposes that the alteration classification does not constitute theory He points out the theoretical mechanisms which give rise to the descriptive distribution of syntactic behaviour are transparent. Pustejovsky states that polyadicity is another kind of syntactic diagnostic that seems

to have some theoretical utility. The rule of indefinite deletion is the term for the following paradigm.

15. a. James read a letter slowly.  
b. James read slowly.
16. a. The man rides a bicycle speedily.  
b. The man rides speedily.
17. a. Nancy hummed a song while she read.  
b. Nancy hummed while she read.

There are also cases where the near synonyms seem to behave differently with respect to the licensing of complement-drop.

18. a. James tried to read in the afternoon.  
b. James tried in the afternoon.
19. a. Mary attempted to read at dawn.  
b. Mary attempted at dawn.



Pustejovsky states that in addition to transitive-intransitive polyadicity, there are well-documented ditransitive-transitive shifts, as shown below.

20. a. Asnath mailed a letter to her parents.  
b. Asnath mailed a letter.
21. a. James gave a lecture to his students.  
b. James gave a lecture.
22. a. John hand a pen to his friend.  
b. John hand a pen.

Pustejovsky observes that the obligatory expression of the goal argument is dropped in the above sentences, and the verb becomes a simple transitive. The goal phrase which allows the alternation is dropped and the verb becomes a simple transitive. The alternation is allowed by the

interaction of the verbal semantics with semantic information. Pustejovsky states that aspectual class is one of the oldest semantic classifications for verbs. There are these classes of aspectual types.

- a. State
- b. Activity
- c. Event

The event class is broken down into accomplishment and achievement events.

The verb **run** in the following sentence is an activity of unspecified duration. The sentence is in the past tense but it does not convey the information.

23. a. James ran last day.  
 b. James ran to his home last day.

The sentence (23b) conveys the same information as sentence (23a.) but with an additional constraint. The sentence (23b.) denotes an accomplishment event.

24. a. Simon played the organ (for 20 minutes)  
 b. Jane played the guitar in (30 minutes)

Pustejovsky suggests that the classic diagnostic for testing whether a verb phrase denotes an accomplishment is modification by temporal adverbials such as in an hour. This is also a frame adverbial that requires that the frame adverbials make reference to an explicit change of state. The change usually occurred instantaneously for example in sentences (25a-c).

- 25.a. Peter milked at 1p.m.  
 b. James swims at 6.a.m.  
 c. Jane left at midnight.

Pustejovsky points that the lexically specified accomplishment verb can appear with either a bare plural object or mass term.



26.a. Nancy chewed the gums (activity).

b. Nancy chewed a gum (accomplishment)

Begin and finish are aspectual predicates, which result from pluralization of the subject of achievement. The achievements are not grammatical as complements of the following verbs:

27.a. Peter began in searching cockroach.

b. The visitors began to arrive.

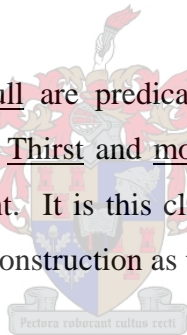
28.a. Marble began in searching money.

b. The groom began to arrive.

There are two kinds of stative predicates

1. Individual – level
2. Stage – level

Pustejovsky explains that short and dull are predicates of individual-level because they are properties which individual can retain. Thirst and mourn are predicates that are of stage-level kind, because they are of non-permanent. It is this class, which typically appears according to Pustejovsky, in forms of the resultative construction as the culminating predicate.



29.a. Working the whole day made James thirsty.

b. John is drawing a plan (Therefore John has drawn a plan)

Sentence (29a) is an activity and entails the statement John has slept.

As regards normal alternation Pustejovsky states:

Nouns have characteristics of grammatical behaviours. But studying the behaviour grammatical alternations has been the point of departure for the semantic classification of nominal types. Count versus mass is the most studied distinction of nominal semantics.

As is well-documented, count and mass nouns select for different patterns of predication.

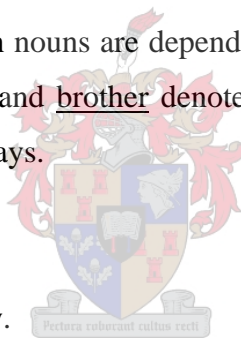
- 30.a. Mass nouns: More milk, much soil.  
 b. Count nouns: both men, each man.
- 31.a. James drinks a lot of water.  
 b. John relished every water he drank.
- 32.a. More courier is sent every Tuesday.  
 b. Is there any courier for me today?

Pustejovsky states that the distinction related to count and mass nouns is that between individual and group nouns. The group nouns satisfy semantic plurality requirements on selection.

33. a. The staff met on the matter.  
 b. The crowd dispersed after discussion.

Pustejovsky points out that the relation nouns are dependent on another referent in terms of how they themselves denote. Neighbours and brother denote individuals standing in relations to at least one other individual in specific ways.

- 34.a. The men arrived yesterday.  
 b. The neighbour arrived yesterday.  
 c. The neighbours arrived yesterday.
- 35 a. The brother came home.  
 b. The brothers came home together.



Pustejovsky observes that the nouns such as neighbour and sister denote horizontal relations, while father and daughter denote hierarchical relations. The noun daughter is the dependent object in the relation and behave differently from father.

- 36.a. The daughter is at home.  
 b. The daughters are gathering upstairs.  
 c. The fathers are meeting tomorrow,

The independent variable in the relation results in fully acceptable sentences.

- 37.a. My father told me.  
 b. My brother is at home.  
 c. Her neighbour watered the garden.

Pustejovsky points out that the distinctions between count / mass, individual / group, and predicative / relation are motivated by distinct grammatical behaviours. The distinction can be made between concrete nouns and abstract nouns: goat, school, horse.

Concrete mass nouns are: age, place and shape.

Pustejovsky argues that the adjective classes for the objectives are used to denote states. This allows for the classification of properties such as hungry and rotten as accidentals qualities as distinct from necessary qualities. The progressive aspect is one of the diagnostics, and the ability of mid stage – level predicates to enter into predicates with the progressive, whole individual-level predicates cannot.

- 38.a. John is so happy again.  
 The dog is furious with the owner.  
 Try to be patient.



- 39.a. Getrude is being short tonight.  
 b. Stop being so dull.  
 c. Will you being beautiful tonight.

There are other ways to classify the adjectives by virtue of predicative and attributive position.

- 40.a. The distinguished guests.  
 b. The guests are distinguished.  
 41.a. The disappoint girl.  
 The girl is disappointed.

Pustejovsky states that there are similarities between adjectives and verbs. He refers to unary and binary predicatives, which can be seen as intransitive and transitive forms. An adjective such as old takes no complement while adjectives such as envious and jealous are inherently relational.

- 42.a. Elizabeth is old.  
 b. Mary is envious of Simon's health.

Adjectives such as eager, anxious and unwillingness are subject control predicates and have no alternating construction. The tough-movement adjectives such as easy, tough and difficult enter into the following alternation:

- 43.a. It is easy to pass exam.  
 b. The exam is very easy to pass.  
 44.a. It is interesting to travel by aeroplane.  
 b. To travel by aeroplane is interesting.

Pustejovsky refers to Dixon (1982), who distinguishes adjectives according to the general semantic field associated with the term. The following are classes of adjectives:

1. Dimension: large, small
2. Physical property: soft, hard
3. Colour: blue, green
4. Human: Propensity: Happy, kind
5. Age: Young, middle aged
6. Value: bad, good
7. Speed: fast, slow
8. Difficult: easy, difficult
9. Similarity: alike, similar
10. Qualification: likely, probable

#### Interlexical Relations

There are five classes of lexical relations, according to Pustejovsky

- a. Synonymy

- b. Antonym
- c. Hyponymy and lexical inheritance
- d. Meronymy
- e. Entailment and presupposition

Pustejovsky provides the following definitions:

Synonymy is relation between words rather than concepts e.g. plank and board.

Hyponymy is the lexical relation most studies in the computational community. A car is a hyponym of vehicle.

Antonym it is relation characterized in terms of semantic opposition e.g. sleep and awake.

Meronymy is relation well suited to nouns but less well suited to verbs, and refers to a noun representing another noun, e.g. Capital Hill for the U.S. government.

Entailment and presupposition is a relation where an expression A semantically entails an expression B, if and A true, makes B true.

- 45. a. Peter killed Mary
- b. Mary died
- c. Mary is dead



Pustejovsky explains that there is killing event, and then there is also a dying event. The kill entails rather than presupposes an event associated with dying.

The verb manage entails the complement event but also carries a presupposition that the person attempts to do the action in the complement.

- 46. a. Salome managed to read the book
- b. Mary managed the book
- 47. a. Abel didn't manage to read book
- b. Abel didn't finish reading

Pustejovsky states that the lexical semantics of a verb like manage must presuppose that the agent of the managing event also attempts to bring this event.

## 2.4 THE LOGICAL PROBLEM OF POLYSEMY

In chapter 3 his book The Generative Lexicon, Pustejovsky discusses the logical problem of polysemy. He argues that a treatment of the description of the semantics of lexical items should permit us to describe the behavior of ambiguity. Varieties of sense extension refer to phenomena where there are many words in a language having more than one meaning: a lexical item accidentally carries two distinct and unrelated meanings.

48. a. James leaves for the meeting at 18h00  
 b. Marula tree has green leaves
49. a. Where is the key to the main door?  
 b. Mining is the key sector of the economy.
50. a. The crack of the building is too narrow  
 b. Two boys crack some jokes while sitting at the beach

The other type of ambiguity according to Pustejovsky involves lexical senses, which are manifestation of the same basic meaning of the words as it occurs in different contexts.

51. a. John enters through the door  
 b. The door is closed
52. a. Peter extinguishes the fire  
 b. The fire is extinguished

He refers to Weinreich who termed this distinction as complementary polysemies. There are two types of sense complementarily, a. category preserving, and b. category changing.

Pustejovsky points out that complementary polysemy is a slightly broader term than logical polysemy. Complementary polysemy describes how cross-categorical senses are related:

According to Pustejovsky, contrastive ambiguity refers from the abstract to the contextual meaning. The term abstract does not apply to the single words.

53. Peter killed many birds

The verb kill and the noun birds are contractively ambiguous. Lexical disambiguation does not occur independently for one lexical item.

54. The blade is in the bill

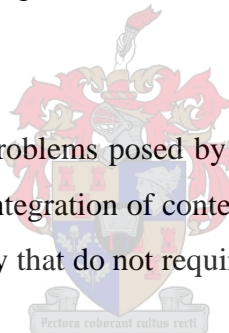
Both the nouns blade and bills are ambiguous. The blade has two senses.

1. The flat cutting edge of a knife.
2. The broad flat part of a leaf.

The bill also has two senses:

1. Written statement of money owed for goods.
2. The beak of a bird.

Pustejovsky proposes that the major problems posed by contractive ambiguity involve issues of discourse inferencing and the correct integration of contextual information into processing. There are some cases of contrastive ambiguity that do not require context and pragmatic information for disambiguation.



Pustejovsky argues that the senses in a logical polysemy can be distinguished from contrastive ambiguity by the manner in which the senses are related. Contrastive senses are contradictory in nature and complementary polysemy is seen in other categories. Adjectives such as good have multiple meanings depending on what they are modifying.

55. a. a good wagon

b. a good food

c. a good plate

The adjective good is a positive evaluation of the nominal head it is modifying. Logical polysemy can be seen as relating the multiple complement types that verbs select for.

56. a. Peter began to write exam  
 b. Peter began writing exam  
 c. Peter began the exam

According to Pustejovsky the verbs such as begin are polesemous because they are able to select for a multiple number of syntactic and semantic contexts e.g. noun, phrase, verb phrase and Gerundive. Other related senses which could be viewed as polysemies takes the area of causative alternation.

57. a. The bottle broke  
 b. Peter broke the bottle
- 58 a. The window closed slightly  
 b. Peter closed the window slightly

Complementary polysemy contains a different type of relation between senses. Pustejovsky states that this sense alternation is one of the many nominal alternations.

- 59 Count / mass alternation : Chicken  
 a. The chicken is running in the field  
 b. Peter ate chicken for supper.
- 60 Container alternation: bottle  
 a. Peter washed the bottle  
 b. Mary drank the bottle
- 61 Product / Producer alternation: Newspaper  
 a. The newspaper hired new editor  
 b. Mary spilled newspaper with water.
- 62 Process alternation: Examination  
 a. The Department of Education releases examination results early  
 b. The examination was tough
63. Plant / food alternation: apple  
 a. Peter pick the apple



- b. Mary prune the apple
64. Figure / Ground Reversals : Window
- a. The window is closed.
- b. Mary looked through the window
65. Place / People alternation: Germany
- a. Peter comes from Germany
- b. Germany fired the boss

Pustejovsky argues that in an elementary lexical semantic theory the major part of semantic research has been on logical form starting from a sentence – level syntactic representation to a logical representation language. The core problem for natural language semantics is assigning the correct semantic interpretation to any string in the language.

Pustejovsky suggest that to account for the Polysemies is to allow the lexicon to have multiple listing of words. This is the simplest way of encoding sense variation in a lexical form. He explains that lexicon L is a sense enumeration Lexicon if and only if for every word W in L, having multiple senses  $s_1, \dots, s_n$  associated with that word. A word form does not complicate the compositional process of how words combine in their interpretation of a sense. The two contrastive senses of the word bank using a fairly standard of lexical data structure of category type (CAT) and a basic specification of the genus term (GENUS) are as follows:

66.  $\left[ \begin{array}{l} \text{Bank 1} \\ \text{Cat = count – noun} \\ \text{Genus = financial institution} \end{array} \right]$

67.  $\left[ \begin{array}{l} \text{Bank 2} \\ \text{Cat = Count – noun} \\ \text{Genus = Shore} \end{array} \right]$

The verb such as lend may select in one of the senses for financial institution as subject.

68. The bank will lend the money to the customer

69. 
$$\left[ \begin{array}{l} 1. \\ \text{Cat} = \text{Verb} \\ \text{Sem} = \text{R o } (o1, o2, o3) \end{array} \right] \text{end}$$

$$\text{ARGSTR} = \left[ \begin{array}{l} \text{ARG}, = \text{NP} \left[ \begin{array}{l} + \text{Financial instr.} \end{array} \right] \\ \text{ARG2}, = \text{NP} \left[ \begin{array}{l} + \text{Money} \end{array} \right] \\ \text{ARG3}, = \text{NP} \left[ \begin{array}{l} + \text{Human} \end{array} \right] \end{array} \right]$$

## 2.5. LIMITATIONS OF SENSE ENUMERATIVE LEXICONS (SELS)

Pustejovsky suggests that the representations allowed by sense enumeration lexicons account for the description of natural language semantics. A theory of lexical meaning affects structure of semantic theory in many ways. Words behave as either active functors or passive arguments.

Pustejovsky states that lexical semantics must address three basic arguments:

- a. The creative use words: words assume new senses in novel contexts.
- b. The Permeability of word sense : Word are not atomic definitions.
- c. The expectation of multiple syntactic forms : A single word can have multiple syntactic realization.

The frameworks incorporating sels are poor models of natural language semantics.

In addressing the goals of lexical semantic theory Pustejovsky argues that the primary goal of a theory of lexical and computational semantics, is to describe the data and to be transparent regarding two points:

- a. The system must be learnable
- b. The various phenomenon of Polymorphisms must be addressed.

A notion of semanticity refers to the semantic well-formedness of expression in a grammar. The arguments are expressed in the language and affect the acceptability of an utterance.

70. a. John beat me with his fist.

b. John beat me with his right fist.

71. a. Marble buttered the bread with jam.

b. Marble buttered the bread with a cheap jam from Italy.

The following sentences are semantically odd because they are associated with the semantic possibilities of a noun such as dictionary and rock.

72. a. Peter began the novel

b. Peter began the dictionary

c. Peter began the rock

The sentences in 72a admit two strong interpretations:

- ii. That of doing what one normally does to a book as reader, reading
- iii. That of doing book as a writer, writing.

While (72b) has any number of interpretations regarding activities related to creating or constructing the object.

There is no generally available interpretation for (72c) because of what we understand begin to require of its argument.

The following is the phenomenon illustrated in the pairs

73. a. The church was built

b. The church was built by exp builders

74. a. The cakes were baked

b. The cakes were bakes in the micro-oven

Pustejovsky suggests that the distinctions in the interpretation are real, systematic and part of language itself. These distinctions constitute a level of representation in the semantics.

As regard the creative use words, Pustejovsky observes that the theoretical model is unable to account the investigated data. The model accounts for the data without making any predictions as to whether particular data should be possible. Pustejovsky raises arguments against the sense enumerative use of words. Firstly, he considers the ambiguity of adjectives such as good.

75. a. John bought a good pen.

b. Tonight John was looking for a good meal.

c. John is a good man.

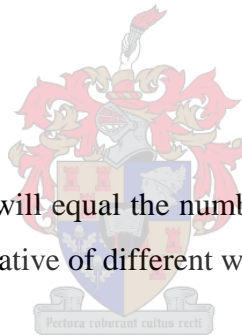
Pustejovsky maintains that, within the Sense Enumeration Lexicon, the only way to represent distinct senses for an adjective such as good would be by an explicit listing of senses in the usage of words: good 1 good 2 good 3.

Good (1) to function well

Good (2) to perform some act well

Good (3) tasty

The cardinality of the senses of good will equal the number of distinct types which the adjective applies SEL model requires an enumerative of different word for such words



76. a fast cook

The one who performs the act of cooking quickly

77. Cricket is a fast game

The motion involved in the game are rapid and swift.

78. A fast newspaper

The one who that can be read in a short time

79. Peter is a felt speaker

One who speaks quickly

There are at least three distinct word senses for the word fast.

Fast (1) to move quickly

Fast (2) to perform act quickly

Fast (3) to do something that takes little time.

According to Pustejovsky, words senses would be annotated with selectional restrictions fast (1) should be predicated by the object belonging to a class of movable entities fast (3) should know how to relate the action that takes a little time. Any finite enumeration of word senses will not account for creative applications of the adjective in the language.

80. a. The Emdo is the fastest motorway in Polokwane

b. Peter needs a fast garage for his scooter

The adjective fast in (80a) refers the ability of vehicles on the motorway to sustain high speed. The adjective (80b) refers to the length of time needed for a repair by the garage with the use of fast there must be new senses not covered by the enumeration.

Pustejovsky states that there are many ways to want, begin or finish something.

81. a. Peter wants a book

b. Jane wants water

c. Elizabeth wants a job

82. a. James began his work

b. Peter finished his exam

c. The meeting has to postpone for next day.

Pustejovsky suggests that if the goal of semantic theory is to determine the well – formedness of an expression then sentences must be interpreted. There is a contextual variability with a verb such as want in sentence (81). The sense enumeration lexicon (SEL) is unable to list the senses that these verbs assume in new contexts.

As regard the permeability of words senses, Pustejovsky observes that the first argument against sense enumerative models illustrated the sense incompleteness problem. The second failing SELS concerns the problem of fixed senses. It is not always obvious how to select the correct word sense in any give context. He discusses the systematic ambiguity of verbs like bake:

83. a. Peter baked the potatoes (change of state)  
 b. Mavis baked a bread (creation)

There are others in the alternation sense class as cook and fry.

84. a. Selby cooked a meat  
 b. Selby cooked the beetroots
85. a. Peter fried a polony  
 b. Peter fried an egg.

Pustejovsky points out there is an overlap in the core semantic components of the difference readings. It is not possible to guarantee correct word sense selection on the basis of selectional restrictions alone.

According to Pustejovsky another problem for sense enumeration models of lexical knowledge is the inability to express the logical relation between senses in case of logical polysemy another case of sense permeability involves adjectives which have complementary senses. Adjectives like afraid and sad predicate of both individuals and event denoting nouns.

86. a. The woman is afraid  
 b. The afraid woman  
 c. An afraid occasion

There are two aspects which relate to Polysemous adjectives:

- a. These adjectives select for animate objects  
 b. There is an ability of the objectives to operate in a similar fashion.

There are two separate senses for each of these adjectives:

- a. One typed as predicating of animate objects

- b. Other predicating of intervals where the adjectives differ in their relational structure. Another related type of adjectival polysemy involves modifiers such as noisy.

87. a. a noisy scooter  
 b. the noisy chicken  
 c. a noisy 1 – bedroom  
 d. a noisy 2 bar – lounge

Pustejovsky refers to two senses for the adjectives noisy:

- i. an object making noise  
 ii. a location accompanied by noise

88.  $\left[ \begin{array}{l} \text{Noisy 1} \\ \text{CAT} = \text{adjective} \\ \text{AGR1} = \text{bar – lounge} \end{array} \right]$



89.  $\left[ \begin{array}{l} \text{Noisy 2} \\ \text{CAT} = \text{adjective} \\ \text{AGR1} = \text{location} \end{array} \right]$

Pustejovsky states that the representation does not do justice to the meaning of this adjective.

As regard difference in syntactic forms, Pustejovsky argues that it is necessary to create separate word senses for a lexical item. This is illustrated by verbs such as believe and forget. He argues that sentences like the following show that the syntactic realization of the verbs complement determines how the proposition is interpreted semantically.

90. Mary forgot that examination results will be released soon. (factive)

91. Jane forget her photo album and comes back to get it (ellipsed non – factive)
92. Whose children forget the question paper? (concealed question)
93. Nelson Mandela was the president of South Africa, we must not forget where he comes from  
– (embedded question)
94. The editor forgot to list the references in his Bibliography. (factive)

Pustejovsky states that the proper approach is to have one definition for forget by suitable composition with the different complement types.

95. Peter does not remember that he has post the letter (factive)
96. The boy never remember where he has put his book (embedded question)
97. Jane remembered her mother’s purse (concealed question)
98. Peter remembered dictionary after leaving the library (ellipse factive)

Pustejovsky presents the following range of subjects with causative and experience verbs.

99. a. Driving a bicycle disturbs me  
b. Driving disturbs me  
c. Jane’s driving disturbs me  
d. Bicycle disturb me  
e. Tuning the music disappoints me  
f. This music disappoints me



To characterize the expressive power of natural languages, Pustejovsky argues, it is best to think about semantic systems. When the principles of context free and transformational grammars were introduced, the apparent inadequacies were being discovered

Pustejovsky present the following properties as the characteristics of lexical ambiguity for monomorphic languages.

- a. Monomorphic languages : Lexical items and complex phrases provide a single type and denotation. Lexical ambiguity is treated by multiple listing of words i.e. constructive ambiguity and logical polysemy. Treating the lexicon has been the predominant view.



- b. Unrestricted polymorphic languages:
- c. Weakly polymorphic languages : all lexical items are semantically active i.e. have a richer typed semantic representation than conventionally assumed. The range of sense extensions for a lexicon increases as restrictions are lifted.

Pustejovsky states that Generative Lexical Models entail the approach where lexical items are minimally decomposed into structured forms rather than sets of features. There are two approaches of word meaning.

Pustejovsky states that the primitives assume that word meaning can be defined in terms of a fixed set of primitive elements. Relation-based theory claims that there is no need for decomposition into primitives and their concepts. The view establishes the connectedness between lexical meanings and propositions. Pustejovsky proposes the generative lexicon involves four levels of semantic representation.

- a. Argument structure : specifies the number and type of arguments that a lexical item carries
- b. Event structure : characterizes basic event type of a lexical item and internal sub eventual structure.
- c. Qualia structure: represent the different modes of predication with a lexical item representing different modes of predication.
- d. Lexical inheritance structure: identifies how a lexical structure is related to other structure in the dictionary.

Pustejovsky suggests that a set of generative devices connects these four levels. The most important of these devices is a semantic transformation called coercion. Lexical items are provided with mechanisms for fitting novel typed environments. In the construction of a semantic interpretation for a phrase, a lexical item coerce an argument to the appropriate type. Type COERCION entails a semantic operation that converts an argument to the type which is expected by a function where it would otherwise result in a type error.

As regards strong vs. weak compositionality, Pustejovsky states that the principles of compositionality are satisfied in at least two ways:

1. Weak compositionality
2. Strong compositionality

Pustejovsky suggests that two parameters are important for characterizing semantic devices:

- a) The degree of composition within an expression
- b) How many explicitly defined senses are necessary to accomplish a unique interpretation of the phrase
  1. The first point refers to how functionally the elements in the phrase are treated.
  2. The second point refers to the linguistic and logical tradition of multiplying senses on demand for new contexts as needed to create rise to a system where the number of distinct lexical senses needed in the lexicon rises proportional to the number of interpretations in the language.

## 2.6 THE SEMANTIC TYPE SYSTEM

In chapter 5 of his book, **The Generative Lexicon**, Pustejovsky addresses the semantic type system. Pustejovsky posits four levels of representations.

1. Argument structure
2. Event structure
3. Qualia structure
4. Lexical inheritance structure.

Pustejovsky posits three semantic transformations:

1. Type coercion: where a lexical item is coerced to a semantic interpretation by a governing item in the phrase.
2. Selective Binding: where a lexical item operates specifically on the substructure of a phrase.
3. Co – composition: where a multiple elements within a phrase behaves as functors

The underspecified semantic forms contextually enriched are:

- a. Manner co – composition
- b. Feature transcription
- c. Light – verb specification

Lexical items are provided with mechanism for fitting to novel typed environments. The semantic underspecification plays an important part in the restructuring operation of composition.

### **Argument structure**

According to Pustejovsky, there are four components of the semantics of lexical item.

(1)  $a = \langle A, E, 2, 1 \rangle$

A is an argument structure, E is the specification of event type, 2 provides binding of two parameters in the quality structure and I is an embedding transformation.

Pustejovsky states that argument structure is the logical starting point of semantic analysis of words. Argument structure itself is a highly structured independent of the syntax. The argument structure for a word can be seen as a minimal specification of its lexical semantics.

Pustejovsky distinguishes four types of arguments

- a. True arguments: These are parameters which are not necessarily expressed syntactically.
- b. Default arguments: These are parameters which are not necessarily expressed syntactically e.g. I carved an elephant out of wood.
- c. Shadow arguments: These are parameters which are semantically incorporated into the lexical item e.g. I lit the fire with matches.
- d. Adjuncts: These are parameters which modify the logical expression but are part of the situational interpretation e.g. The wind is blowing in the mountain.

Verbal alternations should be distinguished from those alternations involving the expression of an optional phrase.

100. a. The door tore
- b. Peter tore the door

101. a. Jun lit the fire with matches  
 b. Jun lit the matches to fire  
 c. Jun lit the fire  
 d. Jane lit with the matches

Like default arguments, shadow arguments refer to semantic content that is not necessarily expressed in syntax.

102. a. James buttered his bread with jam  
 b. Harry kicked the table with his left leg.

Pustejovsky suggest that compositional operations may create an argument or shadow at a phrasal projection. For the verb show, true arguments expressing the GOAL argument cent be defaulted by Virtue of Semantics of the complement.

103. a. John showed his displays to Peter  
 b. John showed a movie (to Peter)

The arguments for a lexical item, ARG, -ARGn are represented in a list structure where argument type is directly encoded in the argument structure D-ARG is a shadow argument.

a.

$$\left[ \begin{array}{l} \text{ARGSTR} \\ \text{ARG2} \end{array} \right]$$

The lexical semantics for the verbs can be partially represented with the argument structure specifications.

104.  $\left[ \begin{array}{l} \text{Butter} \\ \text{ARGSTR} \end{array} \right]$   $\left[ \begin{array}{l} \text{ARG 1} = \text{human} \\ \text{ARG2} = \text{Phy. Object} \\ \text{S} - \text{ARG 1} = \text{butter} \end{array} \right]$

$$105. \left( \begin{array}{l} \text{Kick} = \text{ARG1} = \text{Animate} \\ \text{ARGSTR} = \text{ARGS 2} = \text{Phys. Object} \\ \text{S} - \text{ARG} = \text{leg} \end{array} \right)$$

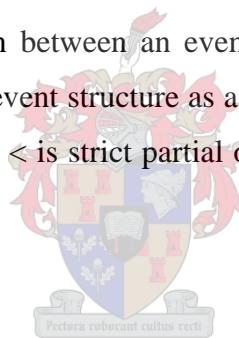
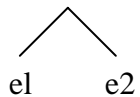
Pustejovsky suggests that the event plays an important role in the verbal semantics. To capture some of the phenomena associated with aspect there must be proper distinction which are necessary for event descriptions.

Pustejovsky suggests that events can be sub-classified into three sorts:

- a. Processes
- b. States
- c. Transitions

Within an event semantic the relation between an event and its proper sub – events must be presented. He interprets the extended event structure as a tuple  $\langle E, \&, \prec, O, \leq, * \rangle$ . E is the set of events,  $\prec$  is a partial order of part – of,  $\leq$  is strict partial order, O is overlap,  $\leq$  is inclusion and \* designates the “ head” of an event

$E \prec \&$



An event tree structure represents sequential relations between sub-events and structure other orderings. An event composed of two simultaneous sub events is “exhaustive overlap part of “ O &. It is denoted by verbs such as accompany. Accompany refers to an implicit event and assumes both telic and atelic interpretations.

106.a. James will accompany Mary to the school (telic)

b. Peter accompanied Marilyn while she was travelling (atelic)

$\prec O \&$  where unit is a function over events returning the initials part of that, event and end is a function returning the final part of the event.

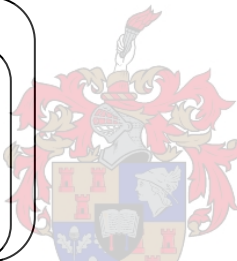
$\prec O \&$  defines an event containing two sub events. e1 and e2 where e1 start before e2.

Pustejovsky argues that there are two facets of an event tree structure that need to be represented for a lexical structure: the specific events and their types, and the ordering restriction over these events.

107.

$$\left( \text{EVENTSTR} = \left( \begin{array}{l} \text{E1} = \dots\dots\dots \\ \text{E2} = \dots\dots\dots \\ \text{RESTR} = \dots\dots\dots \end{array} \right) \right)$$

108. The verb *build* is typically analyzed as involving a development process and a resulting state.

$$\left( \begin{array}{l} \text{build} \\ \text{EVENTSTR} \end{array} = \left( \begin{array}{l} \text{E1} = \text{process} \\ \text{E2} = \text{state} \\ \text{RESTR} = \langle \& \rangle \end{array} \right) \right)$$


Pustejovsky argues that the structural information is not sufficient to capture lexical distinctions that languages systematically make. The event information conveyed by a verb can be much richer than the sequence of events. An event structure provides a configuration where events are not ordered by temporal precedence. Rules of agreement militate in favour of making structures in terms of heads of phrases. Headedness is property of all events sorts but acts to distinguish the set of. Pustejovsky posits temporal ordering relations in language. Pustejovsky identifies six head configurations with two events, resulting in twelve possibilities. The role of semantic under-specification figures prominently in the analysis of verbal polysemy.

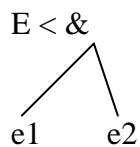
Headless event structure admits one of two possible interpretations. The representation provides a mechanism for relating the logical senses of polymorphic verbs.

- a. causative
- b. argument inversion

## c. raising predicates

Heads licence certain types of modification. The durative adverbials modify the designated head of event.

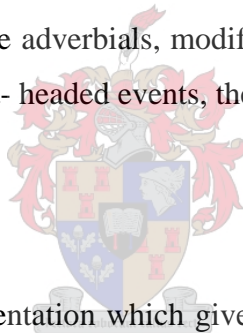
109. a. Peter walked church for two hours  
 b. Jame's car radio died for five days  
 c. Marcus left here for one month



leaves for town

The process and stated licence durative adverbials, modification by an adverbial is grammatical. A similar phenomenon occurs with left-headed events, there are adverbs such as: -

- 110 a. Peter built the church carelessly  
 b. Jane quietly read the letter



Qualia structure is a structured representation which gives the relational force of a lexical item.

Pustejovsky specifies the four essential aspects:

111. a. Constitutive: The relation between an object and its constitute parts.  
 b. Formal: that which distinguishes it within a larger domain  
 c. Telic: its purpose and function  
 d. Agentive : factors involved in its origin

The qualia are structure like phrase structural descriptions for syntactic analysis.

According to the Pustejovsky there are two general points concerning qualia roles:

1. Every category expresses a qualia structure.
2. Not all lexical items carry a value for each qualia role

Pustejovsky states that the first point is how a generative lexicon provides a uniform semantic representation compositionally from all elements of a phrase. The second point allows us to view qualia relative to particular semantic classes. The distinction between semantically relates nouns such as novel and dictionary stems from the objects. The representative qualia value encoding the functional information for novel and dictionary are TELIC = reading and TELIC = consulting the structure of the text in a novel is characteristically a story. The dictionary is a listing of words. The qualia provide the jumping off point for operations.

112. 
$$\left( \begin{array}{l} \text{QUALIA} = \left( \begin{array}{l} \text{CONST} = \\ \text{FORMAL} = \\ \text{TELIC} = \\ \text{AGENT} = \end{array} \right) \end{array} \right)$$



The qualia values cannot be listed without being bound appropriately.

$$\left( \begin{array}{l} \text{Novel} \\ \text{Qualia} = \left( \begin{array}{l} \text{Constitute} = \text{narrative} \\ \text{formal} = \text{book} \\ \text{Teric} = \text{reading} \\ \text{Agentive} = \text{writing} \end{array} \right) \end{array} \right)$$

The qualia structure associated with causative predicates. The verbs are analysed as processes followed by a resulting state. The two phrases are: Agentive and formal roles.



113.		
Break		
Eventstr	=	$E1 = e1 : \text{process}$ $E2 = e2 : \text{state}$ $\text{RESTR} = < \&$
Qualia	=	$\text{Formal} = \text{broken} (e2,y)$ $\text{Agentive} = \text{break. Act } e1, x, y$

Predicates denoting a process are distinguished according to the mode of explanation.

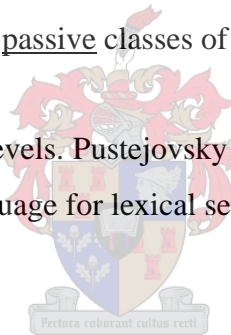
Pustejovsky states that there are two processes involved:

- a. Agentive
- b. Formal

Many languages distinguish active and passive classes of processes.

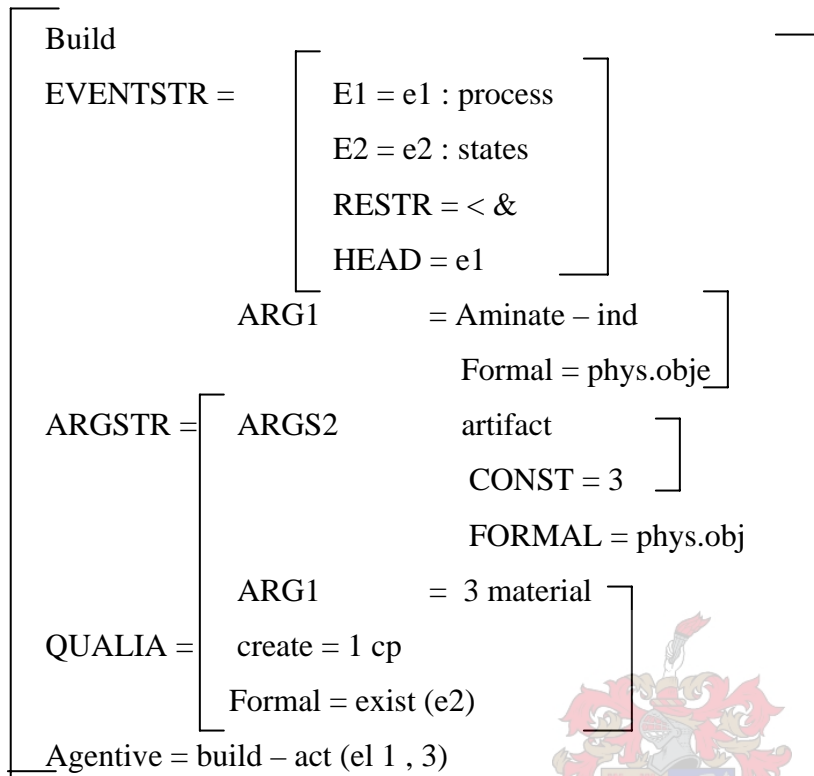
As regard the interaction of semantic levels. Pustejovsky states that there are three interactions of three levels to construct a uniform language for lexical semantic representation.

- a. argument
- b. event
- c. qualia



There semantic class information may inherited by sub-typing specifications. There are three arguments associated with the verb: Two true argument and one default argument. The verb as a lexical accomplishment can be analyzed containing two sub-events : a. process b. Resulting state.

A representation of a qualia for the verb build is given below



The process is agentive act involving the deep syntactic subject, ARG2 and the default argument, D- ARG1, which is related to the logical object by the CONSTITUTIVE relation of ARG – 2.

## 2.7 QUALIA STRUCTURE

In chapter 6 of his book **The Generative Lexicon** Pustejovsky address the qualia structure and modes of explanation. He states that there are four interpretive levels, these are <A, A,2,1>

There are also four basic roles that constitute the qualia structure 2 for a lexical item:

1. CONSTITUTIVE: The relation between an object and its constituents: a Material, b. Weight, c. Parts and component elements
2. FORMAL: That which distinguishes the objects within larger domain: a. Orientation. b. Magnitude, c. Shape, d. Color, e. Dimensionality, f. Position
3. TELIC : Purpose and function of the object
  - a. Purpose that an agent has in performing an act.

b. Built function or aim which specifies certain activities

4. AGENTIVE: factors involved in the origin a. Creator, b. Artifact, c. Natural Kind, d. Causal chain

Pustejovsky argues that there are many ways of approaching of a word. Qualia structure is the set of semantic constraints by which a word is understood when embedded within the language. The qualia provides the structural template over which semantic transformation may apply to alter the denotation of a lexical item. The transformations are the generative devices such as type coercion, selective binding and co-composition which may be expression to a new meaning.

Pustejovsky explains that there are the ways in which the NPs is subject and complement contribute towards specifying the interpretation of the verb use:

114. a. Mary used the hard on the book.

b. Joseph uses the hard on the book

115. a. The sugar used in tea

b. The ink used in machine



There is a way qualia structure elucidates an interpretation in context, the contextualized meaning of enjoy.

116. a. Peter enjoyed the bioscope (watching)

b. Jane enjoyed the dinner (eating)

c. Mary enjoyed the shaker's spear (reading)

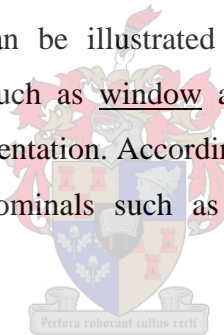
According to the Pustejovsky, the qualia of an object can be seen as the initial points from which to construct interpretations. The contextualization of a sense for a verb does not come from the semantic of the complement. Pustejovsky proposes that there are two factors contributing to the interpretation of the ellipsed predicate.

117. a. The qualia structures associated with the subject NPs.  
 b. The complements are identified as names of airports.
118. a. The experienced pilots prefers Johannesburg to Cape Town.  
 b. The experienced Pilot prefer Australia to Stellenbosch

The TELIC roles from the agentive nominals override any V p- internal interpretation.  
 There are demonstration about phenomenon of adjectival submodification:

119. a. a bright glass  
 b. an opaque glass
120. a. a fast narrator  
 b. a female narrator

The qualia structure of nominals can be illustrated in the characterization of the logical polysemous behaviour of nominals such as window and door. There must be analysis of a category in terms of four levels of presentation. According to Pustejovsky, the problem of logical polysemy and the way in which nominals such as window and door carry two distinct interpretations:



121. a. Peter broke the window  
 b. James looked through the window
122. a. Anny wipes the door  
 b. Mable passed through the door

The underlined nouns have two word sentences i.e. physical object denomination and aperture denomination. There are nominal alternations exhibiting polysemy such as:

123. a. Mass alternations  
 b. Container  
 c. Figure reversals  
 d. Producer alternations  
 e. Plant / food alternations

f. Result alternations

g. Place / people

Pustejovsky suggests that the analysis of lexical conceptual paradigms (1 cps) allows to outline the appropriate structuring of types explain polysemous behavior of nominal types.

The lexical conceptual paradigms Lexical Conceptual Paradigm (LCP) illustrate that syntactic information is inheritable between lexical items. There are three senses available at lexical items associated with an LCP. Constructed from two base types.

There are three senses for the nominal construction:

124.     a. The church construction was demolished for three weeks ago.  
           b. The construction was fast and accurate  
           c. The construction faces north – west

### **The interpretation of the formal Quale**

Pustejovsky considers two possible structure associated with the formal quale

- 125     a. Simple typing: value of formal role is identical to sortal typing of the argument.  
           b. Complex typing: value of formal role defined the relation between the arguments of different types.

The typing of an argument for a nominal defines the information contributed by the formal quale.

For nouns denoting simple types the formal is the typing restriction on the argument structure.

Pustejovsky provides the following schematic representation of a qualia structure:

$$\left[ \begin{array}{l} \& \\ \text{ARGSTR} = \text{ARG 1} = \text{X} : \text{r} \\ \text{QUALIA} = \text{FORMAL} = \text{X} \end{array} \right]$$

The nouns man and human are all belong to the humality and are classified by the way of gender.

They are represented as a constitutive distinction.

MAN		
ARGSTR	=	[ARG1 = x : human ]
QUALIA	=	[CONST = male (x) FORMAL = x ]

Concerning the interpretation of the agentive Quale. Pustejovsky explains that is a mode of explanation that will distinguish natural kinds from artifacts. If the lexical form is a noun, the AGENTIVE is represented as an event predicate. The schematic qualia structure for a simple typed nominal is as follows:

126

&		
ARGSTR	=	ARG 1 = x : r ]
QUALIA	=	FORMAL = x AGENTIVE = r (e, y, x) ]

It is simply a change of state predicate when something is baked e.g. bread is creative activity. But natural kinds such as potatoes are a change of state predicate lexically specified.

As regard the interpretation of the constitutive Quale, Pustejovsky states that the constitutive Quale refers to an object. The relation part of allows for both abstractions.

127. a. x fy [part – of (y, x) ]  
 b. x fy [part – of (x, y) ]

The function (124 a ) defines the more conventional part – of – relation while (14b) defines the relationship.

Concerning the interpretation of the TELIC Qualia, Pustejovsky states that the TELIC quale defines the function of a concept. The lexical knowledge encodes of explanation associated with a word.

Modes of Telic :

Direct Telic: something which one acts on directly.

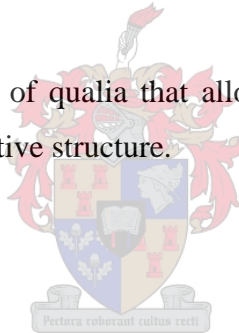
&		
ARGSTR	=	[ARG 1 = x : r ]
QUALIA	=	[FORMAL = x]
		[TELIC = R (e, y, x)]

The objects purpose is the activity given in the telic role.

Pustejovsky maintains that it is types of qualia that allow for some of the alternation seen in agents and instrumentals sharing causative structure.

128. a. An axe split the stick

b. John split the stick with axe



Pustejovsky argues that mapping from Qualia deals with the manner in which the consequences of qualia-based representations are mapped to syntax. The qualia structure projects from multiple semantic expression to the appropriate grammatical functions to the appropriate grammatical functions in syntax. The individuals qualia complete for protection and headness act as a filter to constrain the set of projectable qualia.

Pustejovsky presents the following lexical representation for the verb kill.

Kill	
EVENSTR =	E1 = e1 : process E2 = e2 : state RESTR = < & HEAD = e1
ARGSTR =	ARG1 = 1 ind 2 Formal = phys. Obj ARG2 = animate – ind = formal – phy. Obj
QUALIA =	cause = 1 cp Formal = dead ) e2, 2 Agentive = kill – act (e2, 2)

The qualia of a lexical expression must be saturated by the syntax. The variable in the qualia structure must be fully interpreted in the resulting syntactic structure.

129. For an unergative verb such as run, Pustejovsky states the protection to subject follows the qualia structure.

Run
EVENTSTR = [ E1 e1 : process ]
QUALIA = [AGENTIVE = run – act (e1, x ) ]

The qualia of lexical expression must be saturated by the syntax.

130. QUALIA SATURATION: A qualia structure is saturated only if all the arguments in the qualia are covered.

131. COVERING

An argument x is covered only if

- a. x is linked to the position in structure



- b. x is logically dependent on a covered argument y
- c. x is existentially closed by virtue of its type.

## 2.8 THE GENERATIVE MECHANISMS IN SEMANTICS

With the initial event headed the default argument is expected. A default argument can be viewed as a shadow function of the argument. Formal argument ends up bound to the object in syntax.

In chapter 7 of his book, **The Generative Lexicon** Pustejovsky address the generative mechanisms in Semantics. He suggests that generative mechanisms deal with the methods can be used in order to make use of representations such as event, qualia and argument structure. He states that the mechanism for the polymorphic behavior is a set of generative devices connecting the different levels of lexical semantics. The isomorphism between syntactic and semantic categories cannot be maintained for all levels of linguistic description.

Concerning Coercion and type shifting, Pustejovsky argues that the shifting is way of allowing rators such as negation and conjunction to change type according to what they modify. The types for an expression are related by a type ladder. The utility allows a compositional semantics and accounting for the different manifestations of an expression in a principled way.

The conjunction refers to the type-shifting phenomenon in natural language and classifies as parametric polymorphism. There are very few types of lexical items, which exhibit this behaviour. Pustejovsky provides the following is a type shifting where individual Elizabeth type is coordinated with a qualified NP.

132. Elizabeth and every boy left.

The NP every boy is of type  $\langle\langle e, t \rangle\rangle$ . the solution is to left the interpretation of Elizabeth to the generalized quantifier. There is another application of type shifting.

133. Mable consider Jane a lair

The type of the NP changed to the type of a predicate,  $\langle e, t \rangle$ . Jane (of type) and the predicate can combine in the standard fashion. The verb considers can be represented as selecting for an argument of a particular type. Pustejovsky argues that the type of shifts captures the semantic relatedness between systematically ambiguous lexical items.

134.a. Mavis believes John to be apologetic.

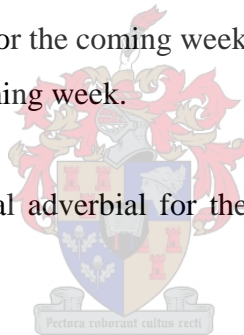
b. Mavis believes that John is apologetic

According to Pustejovsky, one of most serious problems in lexical semantics accounting for the systematic ambiguity in lexical items. There are contractions that are ambiguous concerning the complement types of the verb want.

135. a. Peter wants to have a bicycle for the coming week.

b. Peter wants a bicycle for a coming week.

Pustejovsky suggests that the temporal adverbial for the verb coming were modifies the overt predicate in (135).



136. a. want 1  $E\langle S, \langle NP, S \rangle \rangle$

b. want 2  $E\langle VP, \langle NP, S \rangle \rangle$

c. want 3  $E\langle NP, \langle NP, S \rangle \rangle$

There are difference in the verb meaning and interpretation of the ellipsed predicate. There is a context dependence of the ellipsed predicate.

137. a. Peter wants a tea (to drink)

b. Selby wants a dictionary (to read)/

c. Anny wants a knife (to cut)

Pustejovsky states that no general type-shifting operator would give us the appropriate specific readings required ellipsed predicate. Downty's solution is to have meaning postulate relate the major word senses for a verb such as want. The other problem with solution is that the only way to establish the relating between verb senses is by meaning postulates.

Pustejovsky maintains that there are two major problems with the approach.

- a. It is not the meaning of the verb, which is changing but selection properties on the verb's complement.
- b. It fails to capture the polysemous behavior of these complements.

These are full range of complement for the verb want.

- 138.a. Peter wants Anny to sing (S+INF)
- b. Mable wants to come (VP+INF)
- c. Selby wants a tea (NP)

Besides the shifting there is also monomorphic verb which remains the same. The semantic which remains the same. The syntactic type of the complement to the verb, which undergoes a type shifting, operation and the operation is called type coercion.

139. Type Coercion: a semantic operation that converts an arguments and argument to the type which is expected by a function where it would result in a type error. The rules of function application and composition make difference to the shifting operators.

With regard to type coercion, Pustejovsky suggests that that the properties accompanying types and subtypes are known in the semantic and knowledge representation literature. The following sentence illustrates that both subject and object NPS are subtypes of the sortal specifications to the arguments of the verb.

- 140a. Jane rides a horse to Vereeniging.
- b. Marilyn drinks the minute juice at lunch.

The relationship must be established between the type denoted by the NP and the type that is formally selected for by the verbs drive and drink.

$$141. \left( \begin{array}{l} \text{HORSE} \\ \text{ARGSTR} \end{array} = \left( \begin{array}{l} \text{AFG1} = \text{X: animal} \\ \text{FORMAL} = \text{X} \\ \text{TELIC} = \text{ride (e, y, x)} \\ \text{AGENTIVES} \text{ –create (e, horse, c2)} \end{array} \right) \right)$$

142 The lexical representation for the verb drive is given as follows by Pustejovsky.

$$\left( \begin{array}{l} \text{ride} \\ \text{EVENTSTR} \\ \text{ARGSTR} \\ \text{QUALIA} \end{array} = \left( \begin{array}{l} \left( \begin{array}{l} \text{E1} = \text{e1: process} \\ \text{E2} = \text{e2: Process} \\ \text{RESTR} = \langle \text{O\&} \end{array} \right) \\ \left( \begin{array}{l} \text{ARG1} = \text{X: human} \\ \text{ARG2} = \text{Y: animal} \end{array} \right) \\ \left( \begin{array}{l} \text{FORMAL} = \text{move (e2, y)} \\ \text{AGENTIVE} = \text{drive- act (e1, x, y)} \end{array} \right) \end{array} \right) \right)$$

Pustejovsky states that true type of coercion involves the strict shifting of one type to another specified type. The shifting is not arbitrary but embeds the existing type into the resulting type by the proper coercion operation.

143. a. James wants an alcohol.

b. James wants a tobacco.

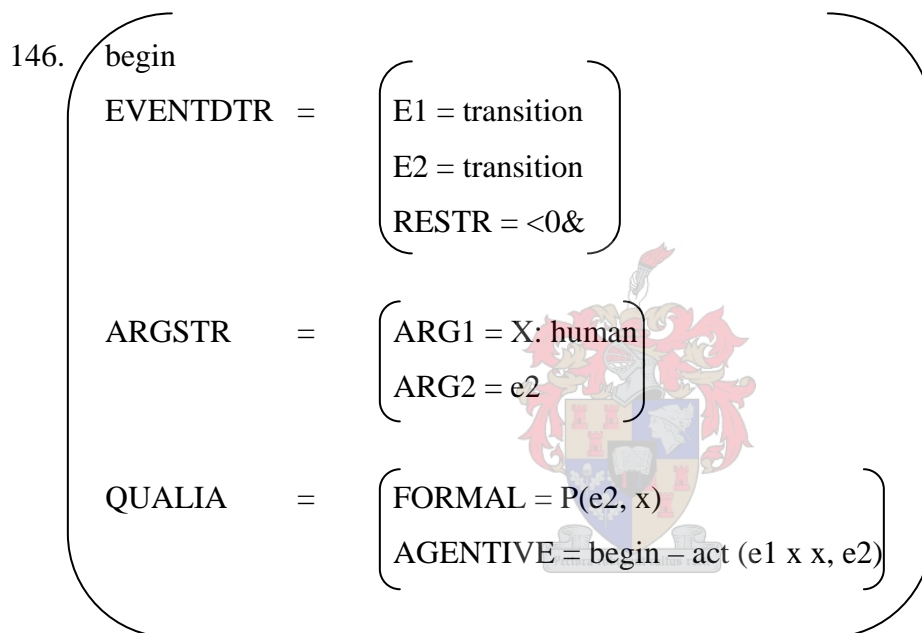
144. a. Peter enjoyed the bioscope.

b. Peter enjoyed watching the bioscope.

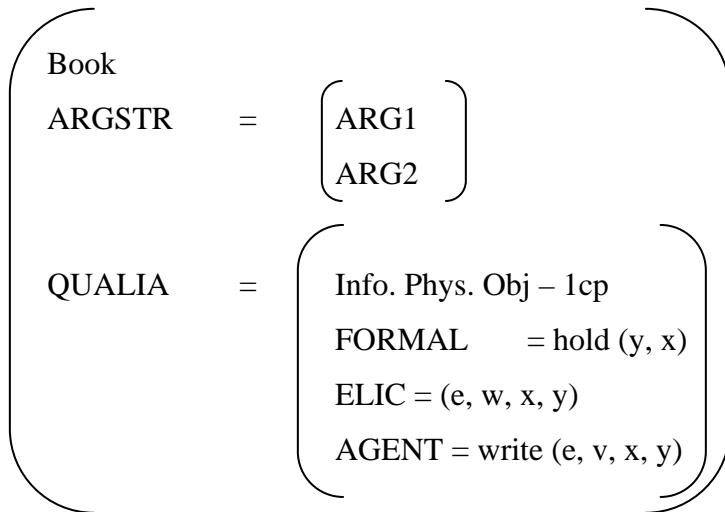
145. a. Mable began a novel.  
 b. Mable began reading a novel.  
 c. Mable began to read a novel.

To capture the semantic relatedness of these different forms, coercion rules must be involved to satisfy the type of the verb.

This is a level structure associated with the verb begin.



The complement to begin is an event. For a sentence such (145), the event type is forced on the complement a novel



The verb begin requires an event denoting an expression. The systematic typing can respected without changing the syntax of the expression.

Pustejovsky suggests that there are cases of verbal logical polysemy involving co-composition. The polysemy-baking verb illustrates the point. The verb bake has two meanings both a change of state senses and a creation sense.

147. a. Mary baked the pumpkin

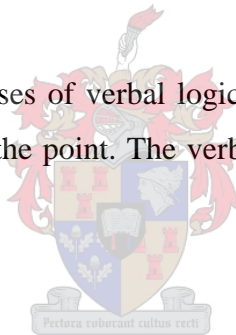
b. Mary baked the cake

148.a. Elizabeth swept the floor

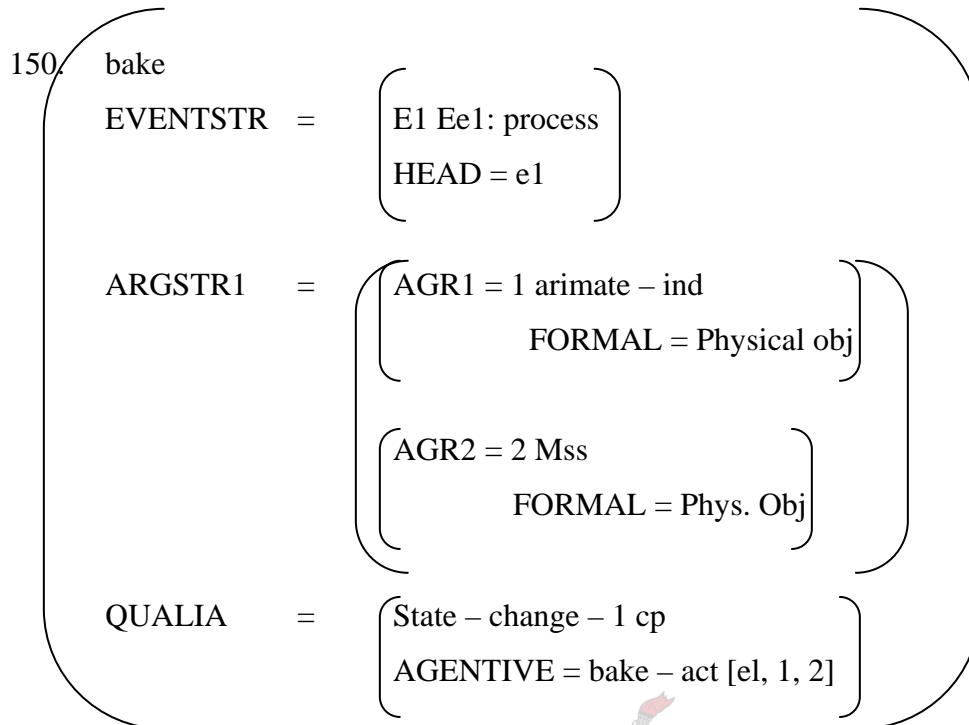
b. Elizabeth swept the floor clean

149. a. Nancy dusted the furniture

b. Nancy dusted the furniture shiny



To capture the logic polysemy the complements carry information, which acts on the governing verb.



The lexical structure for the nouns cake, bread shift the meaning of verb bake while nouns do not. The semantic representation for the VP bake results from several operations.

Pustejovsky argues that:

- a. Conventional function application binds the object into the argument structure of the verb bake.
- b. A type of feature unification occurs

Pustejovsky suggests that the operating of co-composition results in a qualia structure for the VP that reflects aspects both constituents. These include:

- a. The governing verb bake applies to its complement
- b. The complement co-specifies the verb
- c. The composition of qualia structure results in a derived senses of a verb. The derived senses results from an operation is called qualia unification. Both word senses of verbs like bake can be derived by putting some of the semantic weight on the NP.

The result of co-composition representation at the VP level that is identical in structure to the lexical form for a creation verb. The sense arises generatively in the semantics.

As regard selection binding. Pustejovsky argues that there is a non-compositional nature of modification and productivity of constructions. He points out that the standard view on selection within an SEL for the types of adjectival modification is to enumerate the sense. The adjectives such as fast are ambiguous as well as being able to modify both NP and VP's

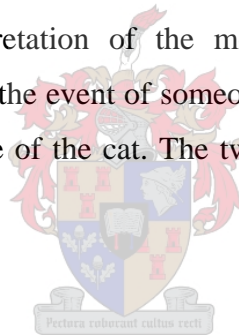
151.a. That was fast movie

b. The horse is fast

152.a. Rachel's foot moved so fast to kick the ball.

b. The cat ran so fast to sustain the speed

Pustejovsky suggest that the interpretation of the modifier references to an event. I the interpretation refers to the duration of the event of someone being gone in (1496) the property of being fast when moving is predicative of the cat. The two sentences in (149) are both standard event predicative interpretations.



There are two issues to be dealt with:

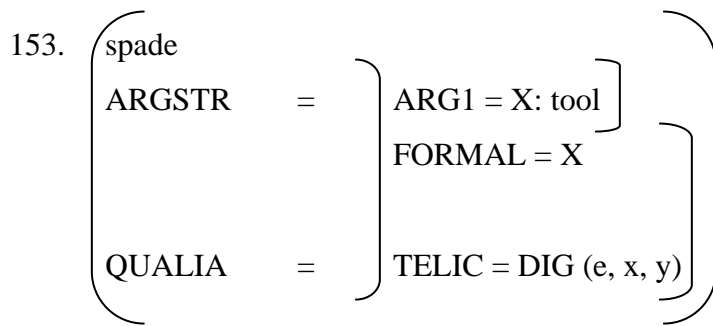
- a. Adjectives such as fast are polysemous modifying individual or events.
- b. The interpretation of the adjective in context depends on the semantic of the head.

Selective binding, according to Pustejovsky, is a semantic device giving the interpretation treating the adjective as a function and applying it to a particular Quale. The same interpretive mechanism allows to account for the contextualized senses for evaluative such as good.

A good spade: a spade that digs well.

The qualia structure for the NOUN spade is as follows:





Good functions as an event predicate, it is able to selectively modify the event description in the TELIC quale of the noun.

### Semantic Selection

According to the Pustejovsky there must be some exploration to what extent the syntactic behavior can be seen as following from semantic selection. The goal is to see how the grammar is affected by a specific approach to modeling lexical semantic knowledge.

There are two ways in which a generative lexicon affects the mapping from lexical semantic to syntax.

- a. There is no one – to – one mapping from underlying semantic types of syntactic representation.
- b. The representation of the semantic information in the qualia structure structure and extended event structure is richer than what conventional models associate with a word.

Pustejovsky suggests that the semantic type allows for a multiplicity of syntactic expression. The grammar associates a canonical syntactic form with a semantic type. If no evidence presents itself two lexical items are distinguished in their semantic realization, which is able to adequately express the semantic recoverability.

Pustejovsky states the lexical conceptual paradigm (LCP) can be seen as the lexicalisation of a number of distinct realizations for a semantic type into one lexical form. The syntactic realizations for a semantics type are determined by virtue of the semantic forms possible for complements.

154. a. The verbs like and enjoy.

b. The interrogative selecting verbs ask and wonder.

According to Pustejovsky, semantic selection can be a good indicator of the syntactic behavior of a lexical item. The resulting set of syntactic forms associated with a particular semantic type is called a phrasal paradigm. The operations ensuring recovering ability on the semantic type are generative devices.

The classic sub-categorization differences between the verbs enjoy and like, are as follows, according to Pustejovsky.

155 a. Peter likes to listen radio

b. Peter likes to listen radio

c. Peter likes radio

d. Peter likes (for) Nancy to listens radio with him

e. Peter likes that Nancy listens radio with him

f. Peter likes it that Nancy listens radio with him



156. a. Patrick enjoys listening radio

b. Patrick enjoys radio

There is still only one canonical syntactic form given for the proposition even though sentential infinitival and perform infinitival. According to Pustejovsky, a second minimal pair illustrating the nature of the semantic selection relation. The idea of semantic selection is discussed in relation to interrogative complements and the problem of concealed questions.

157.a. Peter asked Mavis how the weather was.

b. Peter asked Mavis the weather.

158.a. Selby wondered how the weather was.

b. Selby wondered the weather.

159.a. Peter didn't care how the weather was.

b. Peter didn't care the weather.

Pustejovsky suggests that the inability of the verb and care to take the NP form of the concealed question interpretation can be attributed to the absence of case. The difference in syntactic impossibility should be first attributed to a semantic distinction in the verbs. The difference would appear to be that ask selects for a true interrogative while wonder selects for an attitude towards a set of propositions. The distinction between ask and wonder is not something should be encoded in the semantic typing of the complements.

According to Pustejovsky the NP complementation pattern for verbs like ask illustrates two aspects of the approach outlined.

158. a. The ability of the verb to coerce its complement.

b. The ability of the complement to metonymically reconstruct the requires coercing type from the semantic structure within the complement.

Pustejovsky maintains that the range of complementation patterns for a small number of verbs where the phrasal paradigm associated with each verb, which is illustrative of a distinct semantic type.

159. Like – class (like, prefer)

- a. Peter would like Jane to arrive
- b. Peter liked it that Jane arrived
- c. Peter liked to win the battle.
- d. Peter liked winning the battle.
- e. Peter liked that he won the battle.

160. Wager – class (wager, bet)

- a. Marilyn wagered Rose to sing
- b. Marilyn wagered that Rose sang

c. Marilyn waghered to have sang.

161. Maintain - class

- a. Magdeline maintained Lina to have written.
- b. Magdeline maintained (for two weeks) that Lina wrote.
- c. Magdeline maintained to have written.

162. Try class (try, attempt)

- a. Siphio attempted to write a letter
- b. Siphio attempted that Tilly write a letter
- c. Siphio attempted to write a letter
- d. Siphio attempted the letter

163. Persuade – class (persuade, convenience)

- a. Evelyn persuaded Hendrick to buy a phone
- b. Evelyn persuaded Hendrick that he should buy a phone
- c. Evelyn persuaded Hendrick that he had bought a phone.

164. Remember – class (remember, forget)

- a. Ernst forgot to cook the porridge
- b. Ernst forgot that he cooked the porridge
- c. Ernst forgot cooking the porridge
- d. Ernst forgot where to put the spoons
- e. Ernst forgot his pen

The verb like selects for the type. T. Type verbs forget and remember select generally for a factive interpretation of any type.

## 2.9 TYPES OF SITUATIONS/EVENTS

Smith (1997) argues that the theory of aspect provides a specific account of the aspectual system. She points out that aspect is a parameter which is realized differently in language of the world. An adequate theory of aspect must account for the similarities and differences in aspectual. Traditional aspect refers to grammaticised viewpoints such as perfective and imperfective. The aspects include temporal properties of situation types. It is the semantic domain of the components of viewpoint and situation of their presentation. Smith suggests that the composition nature of aspectual meaning is an essential part of the two-component theory. The aspectual meaning is a composite of the information from the components of viewpoint situation type.

Smith points out that the semantic representations of discourse representation theory allows a precise account of semantic meanings and a basis for computing conversation meanings. The theory of aspect provides an account for structure of aspectual systems and of their substantive dimensions. According to Smith, the universal statement requires that it focuses endpoints of a situation. States do not include endpoints. The universal grammar and cognitive categories have a prototype organization. There are variations of languages.

According to Smith, the two components in sentences present information about aspectual situation type and viewpoint. The two types of information are independent. There are three types of aspectual information conveyed to the receiver.

165. a. James rushed to the church  
 b. James was rushing to school  
 c. James rushed on the road

(165a) presents a complete event that has a goal and the information that the goal was reached. (165b) presents a part of the same type of event but does not convey whether the goal was reached. (165c) presents a complete event that does not involve a goal and the information that the event was terminated. The viewpoint gives a full view in (165a) and (165c) a partial view in

(165c). The situation type of sentence classifies the event talked about according to its temporal properties.

### Smith posits five types of situation

166. a. States: static, durative (hate Peter)  
 b. Activity: dynamic, durative, atelic (walk through the passage)  
 c. Accomplishment: dynamic, durative telic, consisting of process and outcome (read a letter)  
 d. Semelfactives: dynamic, atelic, instantaneous (kick)  
 e. Achievements

There is a distinction between telic and atelic events. Telic events have natural final endpoints whereas atelic events do not.

Smith argues for three main viewpoint types

- 167 a. Perfective viewpoints: focus a situation in its entirety including initial and final endpoints.  
 b. Imperfective viewpoints: focus part of a situation only.  
 c. Neutral viewpoints: are flexible including the initial endpoint of a situation and one internal stage.

168. Temporal schema for James was rushing to the church

The aspectual of a sentence is a composite of viewpoint and situation type information. The aspectual meaning holds for a sentence rather than for individual verb phrases.

169. a. James rushed on the road (atelic)  
 b. James rushed to the church (telic)
170. a. Nancy ate sweets (atelic)  
 b. Nancy ate a sweet (telic)

(169a) has a locative complement, (169b) has a directional complement. The objective noun phrase of (170a) refers to an uncountable quantity whereas (170b) refers to a specific quantity.

Smith states that the aspectual system in language Grammar refers to the system of rules

- a. Lexical
- b. Morphological
- c. Logical
- d. Syntactic
- e. Semantic

Smith states that the aspectual system have consistent properties although their linguistic expression varies across languages. She maintains that the linguistic forms of a language are deployed in sentences by grammatical rules. Lexical morphemes are referring expressions which refer to entities, events or concepts. The class of lexical morphemes is open. Grammatical morphemes express grammatical functions and relationships. The class of grammatical morphemes is limited for a given domain.

According to Smith, aspectual choice allows the speaker to talk about situations in more than one way. There is relation between speakers, sentences and the actual situations. Situation is often presented with more than one viewpoint.

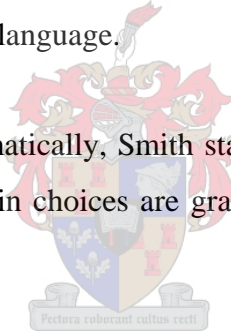
171.   a. The mercury exploded  
        b. The mercury was in explosion

(171a) presents an activity, a dynamic situation type and (171b) presents a state. States are static and unchanging. The speaker links an actual situation to a meaning by taking about the situation with a particular set off linguistic forms. Smith states that the standard choices focus on aspectual properties that are silent at the basic level. Non-standard choices focus on other properties. The square can be used to present the verb constellations. (171a) presents (The mercury explode) as an event (The mercury exploded). In (171b) the verb constellation is presented as a state. (The mercury was in reaction).

Smith (1997) states that the markedness theory is used for semantic analysis of closed systems. The closed can be symmetrical or asymmetrical. In a symmetrical tense system might have two tense, past and present. The semantic asymmetry between aspectual viewpoints explains much about their use. The imperfective is appropriate in many cases where the perfective is not. The perfective gives the information about endpoints. The imperfective gives information about internal stages.

Smith argues that the ideas of markedness can be extended to many domains marked aspectual choices include unusual association between situations in the world and linguistic situation. She maintains that the notion of marked and unmarked situation type choices implies a basic, neutral set of association between situations in the world. They are based on factors such as causation, perceptual salience and function. The conventional ways of viewing and categorizing events are reflected in the words and phrases of a language.

Concerning marked choice and grammatically, Smith states that the notion of marked aspectual choice is perfectly grammatical. Certain choices are grammatically and conventionally marked. The progressive stative sentences are:



172. a. The practical have been observing drawn for the past two days  
 b. Irene is dreaming in ancestors nowadays.

As regard situation type categories and prototype theory, Smith (1997) suggests that the current notions how human categories are organized enable understanding type as conceptual semantic categories. Many human concepts have a central meaning, which consists of a set of properties. Smith states that human cognitive categories have a central group of examples to which all members of the category bear a family resemblances. Central exemplars of a category have more of the characteristics properties than do marginal exemplars.

Smith points out that the concepts of aspects play a role in all languages. The aspectual systems of different language are strikingly similar aspects is a parameter which languages differ.



Universal grammar has the aspectual categories that generally occur in languages of the world. The universal grammar provides that formal structure of aspectual systems. The categories of aspectual components are directly related to the temporal structure of situations. A situation has preliminary stages; internal stages and resultant stages. There is an arrangement of the precise properties of situation types of endpoints.

Smith states that there are several types and viewpoints.

- a. the endpoints of an event may have an internal structure
- b. events may be instantaneous
- c. lacking internal stages.

Universal grammar presents the basic categories with defining properties for each category. The defining properties under – determine a category.

Smith suggests that the aspectual systems must be stated separately language by language. The meanings grammaticalized in language vary. She states that the parametric approach allows for marked situation types and viewpoints that occur in a particular language. There are aspectual meanings that pertain directly to the temporal structure. Smith argues that the domain of temporal location is closely related to aspect. The two domains are complementary. According to Smith, temporal location takes an external viewpoint of a situation. Tense may express an aspectual viewpoints. Semantically aspect and temporal location are closely intertwined in the interpretation of sentences.

## **Situation Aspects**

### **2.1 Basic – level and Derived – level situation types.**

Smith argues that the situations have classified by their internal temporal features. She refers to Aristotle, who distinguished between static and dynamic, or states and events and also features of telicity and duration. The features are based in human perceptual and cognitive abilities. Situation types are semantic categories of language classes of idealized situations with distinctive features. Smith states that the semantic situation types have grammatical correlates. Linguistic properties

distinguishes sentence of each situation type. There are characteristic patterns of co-occurrence with adverbials, aspectual viewpoints and other forms. The verb constellation conveys the concept of a situation.

Smith argues that the activity sentence with the properties of dynamism duration atelicity verb constellation are associated with a given situation type. Situations are neutrally presented as complete, functional wholes, by the general principles of basic level categorization. The verb constellation [James ran by the wind] is associated with the accomplishment situation type because it denotes a Dynamic, Telic Durative event. Verb constellations is associated with several situation types. Smith posits that constellations is associated with several situation types. Verb constellations are associated with more than one situation type.

173. a. Simon recalls the dream (Stative)  
 b. Eventually Simon recall the dream (Achievement)  
 c. Elizabeth sneezed (Semelfactive)  
 d. Elizabeth sneezed for 30 minutes (Activity)  
 e. Gedrude wrote a letter on Thursday (accomplishment)  
 f. Gedrude often wrote a letter on Thursday (Habitual stative)

Smith points out that the verb constellations cannot be classified as associated with particular situation types. It is necessary to include variation in the account. The (a) sentences are derived level requires adverbial or other information from context.

### **Temporal features of the situation types**

Smith (1997) postulates that the situations can be categorized more globally as either states or events. The temporal properties of dynamism, telicity and duration distinguish the basic situation types. The distinction between states and events is commonly reflected in language. An event occurs, happens and takes place while a state olds or obstains. Smith suggests that the natural class of events comprises all non – stative situations. Smith states that events are dynamic Events may be telic of atelic events have a change of state which constitutes the goal of the event. Atelic

events are simple processes. There is no outcome, situation are durative or instantaneous. This notion instantaneous is conceptual.

174. Temporal features of the situation types

Situation	Static	Durative	Telic
States	(+)	(+)	(-)
Activity	(-)	(+)	(-)
Accomplishment	(-)	(+)	(+)
Semelfactive	(-)	(-)	(-)
Achievement	(-)	(-)	(+)

According to Smith there is a structural analogy between the part whole structure of events and things. Countable things differ from the uncountable. For uncountable things proper things, a proper count as an instance of the whole Telic events are specific and countable.

175. a. Mary ate sweets (activity . atelic )  
 b. Mary ate a sweet (accomplishment. Telic )

The entities referred to by object NPS bare plural in (175a) make the difference between a telic and an atelic event.

### **The Causal chain**

Smith points out that the causal chain sets out the basic components of causal structure. With the chain we are able to relate verb cancellations of the five situation types to the causal structure of situations. Smith states that the mapping of verb constellations to the casual chain allows us to consider its lexical nature. Davidson suggested that the causal structure defines events, Linguists used the notion of causation in representing the course of events.

## **Causal Chain**

Smith suggests that if an instrument is present, it is part of the action of event. Lexical spans of verb constellations can be studied. The lexical span of a verb constellation indicates how much of the causal chain it covers. (arrive in America) has a short span at the end of chain, (Go to America ) covers a large part of the chain.

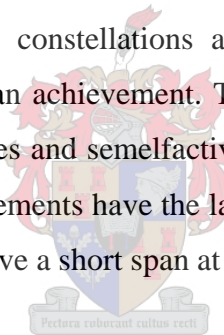
## **CAUSE SUBJECT ACTION INSTRUMENT OBJECT RESULT**

Consider the following verb phrases:

176.a. go to America

b. arrive in America

According to Smith, the above verb constellations are both telic: (go to America ) is an accomplishment, (arrive in America) an achievement. There are typical locations on the casual chains for each situation type. Activities and semelfactives span the earlier part of the chain and do not have the stage of result. Achievements have the larger span. Some achievements are at the rightmost end of the chain – statives have a short span at the end of the chain.



## **The causal chain and situation types**

## **CAUSE, SUBJECT, ACTION, INSTRUMENT, OBJECT, RESULT**

Activity:	cry
Semelfactive:	write in the book
Accomplishment:	post a letter
Achievement:	pray for the heal
State:	pass exam

According to Smith there is a causative classification with characterizes sentences by a mapping to the causal chain. Causative sentences span the entire chain. Inchoative sentences present the

coming about of state. Inceptives span the entry into an event. Ingressives span the exit from an event. Resultatives extend the lexical span of a verb constellation with a resultative complement.

### **The situation Types**

Smith suggests for each situation type a semantic characterization, the basic – level and derived cases and sentences that realize the situation type. The temporal schemata which give the distinguishing properties are associated with the situation type. The situation (Static) denotes an undifferentiated period. (Dynamic denotes successive stages. The Duration is indicated by the presence or absence of internal stages.

### **The activity situation type**

Smith (1977) states that the activities are processes they involve physical or mental activity and consist in the process. They have the temporal features [Dynamic], [Atelic], [durative]. The typical activities are [happy] [joke]. Smith suggests that the termination of an activity does not follow from the structure of the event. The arbitrary final end point of an activity is a temporal bound, explicit or implicit. Activities have the part – whole relation of cumulative events. She stated that any part of the process is of the same nature as the whole. The qualification of internal size necessary because activities cannot take place at small interval. Activities have an explicit, independent, bound as when they appear with certain time adverbials.

### **Activity Situation**

According to Smith (1997) there are three main classes of activities one class consists of processes that are unlimited in principle, such as [joke], [laugh]. Another class of activities has indefinitely many internal stages such as [drink coke], [eat sweets]. Another class is derived, shifted activities involve animate beings and events of movements, activity and volition, non-extensional actions e.g. look for listen for an weather process such cloudy, windy.

According to Smith, sentences with degree predicates present activity events when indicating increase or decrease of a property.

177. a. Mary is broadening the hole  
b. The broadened hole

Multiple event activities are an important class of derived activities. Their internal stages consists of sub-events e.g.

- 178 a Nancy drove the horse for two hours  
 b. The windmill pumped for fifteen minutes  
 c. Peter cried for thirty minutes.

### **Activity Sentences**

Smith suggests that the basic level activity sentence have verb constellations consisting of an atelic verb and compatible complements. The sentences with mass nouns may form complex predicates. Some languages have productive processes of verb incorporation with syntactic consequences. Activity sentences that are complex rather than basic – level frequently have an adverbial with an aspectual value that differs from the verb constellation.

Most language has forms that make atelic verb constellation atelic. Imperfective sentences present part of an event, perfective sentences present an event as a whole.

- 179 a. Peter was licking his whiskers  
 b. Peter licked his whiskers.

The entailment hold because activities are atelic and durative. Inceptive sentence presents an activity indirectly. The inceptive focuses on the beginning of the event.

### **Accomplishments**

Smith suggests that the accomplishment situation type accomplishments consist of a process and an outcome or change of state. The change is the completion of the process; accomplishments are finite, intrinsically bounded. They have temporal feature [Dynamic], [Telic], [Durative]. Accomplishments have successive stages in which the process advances to its natural final endpoints. Accomplishments finish whereas activities terminate.

## **The temporal schema of accomplishment**

Smith suggests that the result of an accomplishment may or may not continue. The process component of an accomplishment is essential to the very notion of the event. The relation between process and outcome of an accomplishment is non – detachability. If the outcome of an accomplishment is reached, the process occurred not all accomplishments are complete.

## **Accomplishment situations**

Telic may be classified by the type of result they bring about

### **Major types of results**

Affected object: [tear the address], [break the window]

Constructed object: [widen the road], [Draw the plan]

Consumed object: [eat soft porridge], [extinguish the fire]

Affected experiencer: [surprise Peter]; [laugh Nancy]

Path – Goal: [swim in the river], [go to school]

Smith suggests that result constructions have complements that are arguments of the telic verb constellation. The complement extends the lexical span with information about resultant state of a telic event. Such complements appear as arguments or as verb affixes:

Temporary bounded process is like telic events in having specific, finite endpoints. They are also unlike telic events because there is no change of state.

Smith maintains that there is transversing of time and space in event types. When one covers a certain amount of space, one arrives at a new location, but no result is assumed for time.

180. a. Peter strolled to cafe:  
 b. Peter strolled for 2 kilometers  
 c. Peter strolled for 1 hour.

The events of (180.a) and (180.b) have result states, but that of (180c) does not. Sentence with atelic verb constellations and atelic adverbials are also derived accomplishments as in Mary sewn

the dress in 30 minutes. Derived accomplishments have super-lexical verbs such as [begin], [start], [finish]. The endpoints are changes of state with internal structure.

- 180 a. Peter is eventually having hatred with Mary  
 b. Margaret speedily continued running

The outcome is the change into a new state durative event the change out of an event to a state of rest.

### **Accomplishments sentences**

Accomplish sentences are ambiguous with the adverb almost.

181. James almost finished the work.

It means James didn't quite finish the work. On the second stage it means John didn't get the work finish.

Smith suggests that the type of ambiguity appears only with sentences presenting durative, explicitly bounded events. The entailment of accomplishments shown with perfective and imperfective sentences. If an accomplishment sentence with the perfective viewpoints is true at interval, then the corresponding progressive sentence is true at interval.

182. a. Peter wrote the letter on Sunday  
 b. Peter is writing the letter on Sunday

If (182a) is true then (182b) is true. Although Peter was in the process of writing the letter, he may not finish writing and never produce a letter. Accomplishments are finite events with natural final endpoint. Accomplishment sentence must have a verb construction with countable arguments as in [Lina brought four cabbages]

### **The semelfactive situation type**

According to Smith semelfactive are single – stage events with no outcome. They have the features Dynamic, Atelic, Instantaneous. Semelfactive are the simplest type of event, consisting



only in the occurrence. Semelfactives are intrinsically bound. Single stage events are conceptualized as instantaneous.

### **Semelfactive Situation**

Smith states that typical semelfactive are events that occur very quickly, with no outcome other than the occurrence of the event. They include bodily events such as [sneeze], [spit] internal events such as [the bulb glow] and actions such as [dance]. These events often occur in repetitive sequence. These events are multiple – event activities. The multiple events reading are triggered by an adverbial or other information.

### **Semelfactive sentences**

The semelfactive verb constellation is limited in distribution. The sentences with the semelfactive verb constellations and durative features are not ungrammatical. They are interpreted as multiple event activities: Peter laughed for 30 minutes. Peter was laughing.

### **The achievement situation type.**

Achievement are instantaneous events that result in a change of state. They have the properties Dynamic, Telic, Instantaneous e.g. [read the book], [open the door]. The temporal schema of an achievement consists of a single stage.

### **Achievement situations**

Smith suggests the typical achievement are changes of the state that occur very quickly, such as [lost], [look]. The lexical span may focus on the outcome of a chain of events. The result states of achievements are like those of accomplishments as listed below.

### **Major Types of Result for achievements**

183. Affected object: [break a glass]  
Constructed object: [dig a hole], [draw a picture]  
Consumed object: [drink a coldrink]

Affected experiencer: [Beat Jane]

Path – goal: [Leave in America]

Smith observes that many achievements require preliminary stages. They may be conventionally necessary, as in [pass exam]: to pass a written exam one must prepare it. Again requires a preliminary approach as in [reach the top]. Other achievements have preliminaries in some cases, but not others.

Achievements sentences

Agent – oriented adverb are sometimes odd with achievements, Ryle discovered.

184. a. Mavis accidentally lost her twenty rand note  
b. Asnath accidentally shot the thief

Smith observes that achievements are typically controlled by an agent and should be compatible with the adverbial accidentally. There are achievement sentence that allow agent-oriented adverbials. They may deny control as in (185a-b) or present plausible cases of control as in (185 c-d).

185. a. Lina accidentally found her cell phone  
b. James accidentally shoot the thief  
c. Nancy deliberately shoot the thief  
d. Nancy deliberately break the glass.

Some achievements allow agent – orient adverbials, other do not.

### Statives

According to Smith (1997) the stative situation type states are stable situation with hold for a moments or an interval. They have the temporal features [static], [Durative]. States consist of a differentiated period without internal structure. They have no dynamics and require external agency for change.

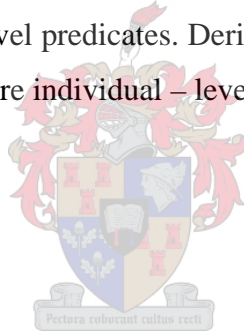
### **Temporal schema of states:**

Smith suggests that the endpoints are not part of the state. This temporal schema reflects the intuition that states do not take time. In model – theoretic semantics the property of holding consistently throughout an interval if formalized as the sub-interval property.

### **The stative situation**

Smith (1997) observes that stative include the ascription of concrete and abstract properties of all kinds, possession, location, etc. There is according to Smith, an interesting difference, among stative predicates according to whether they hold stages of individual due to Carlson(1977). He also noted that predicates, which denote stable properties such as [be brave] hold of individuals and are individual – level predicates. Predicates such as [be brave], [be observant] denote transitory properties and are stage – level predicates. Derived stative include sentences of generic predication. They hold of classes and are individual – level predicates as in :

186. a. Owls are nocturnal  
 b. Owl eat mice  
 c. Predators are cruel  
 d. Carnivores are different



Smith suggests that generic sentences vary widely in syntactic properties. The verb constellations of generic sentences are associated with dynamic situation type at the basic level of classification. Habitual sentences are another type of derived stative. Habitual predicates present a pattern of events.

187. a. The hawk eat chicken gradually  
 b. The hawk ate a chicken  
 c. Mavis was seldom happy  
 d. Albert always visited to clinic.

There is no construction in which the habitual interpretation is obligatory. The event sentence with the present tense and perfective viewpoint must be taken as habitual, with or without frequency adverbials (187a) is stative (187b) are non – stative.

188. a. James is sad  
 b. Marilyn reads the book  
 c. Helen plays the snooker

(188a) denotes a particular state (188b) denotes a pattern of events but no particular event. Habitual depend on pattern of occurrence.

### **Stative sentences**

Smith suggests the language differ in whether stative appear with some or all aspectual viewpoints. In the direct presentation of a state, the verb constellation focuses lexically on that state e.g. James is stout. Habitual sentences have frequency adverbials. In the context of a frequency adverbial almost all verb constellations can be taken as habitual. There is disparity between the interval given by the adverbial and time required for a single instance of the event.

### **The general categories of the event and state.**

Smith postulates that the classes of the states and events have two important differences: Mereological structure or relations between part and whole and the property of dynamism. Events are discrete, bounded entities. Instantaneous events consists of single point. Durative events have an initial and a final endpoint. The initial endpoint is a change from a state of rest, the final endpoint is a change into a state of rest.

Smith suggests that telic events are intrinsically bounded because their final endpoints constitute changes of state. Semelfactives are bounded by the single – stage nature of the event. Temporally bounded activities have independent bounds. In contrast, states are cumulative and unbounded. They have a uniform part structure. Events and stated also differ in energies or dynamism. Events require energy, they occur is successive stages which are located at different moments.

Smith postulates that the bounded nature of the events can be derived from their dynamism. Events require a constant input of energy. Dynamism implies that events have an initial endpoint and an eventual final endpoint. The property of boundedness has sources in both the mereological and dynamic properties of events. The classification of situation types can be amended to reflect these distinctions between bounded and unbounded situations is important for the temporal structure of narrative texts.

## 2.10 KEARNS'S (2000) ASPECTUAL CLASSES OF EVENTS

Kearns states that semantic perfectivity expresses the completeness of an event. There is a week perfectively, which has the following illustrations:

189. a. We write a letter for a while (we didn't finish writing it)  
 b. We have written the letter for a while.  
 c. We have written the letter (we finished writing it)

The adverbial for a while cannot modify events which have reached their natural conclusion and the perfectivity of have written the letter clashes with the adverbial in (1b) in contrast with the plain tense in (1a) which can have an unfinished event writing.

There is a progressive as creating a temporal frame within which another time is placed as in the following examples:

190. a. Peter writes the Sunday Times.  
 b. Peter is writing the Sunday Times.  
 c. When Peter eats Magdeline will wash the dishes.  
 d. When Peter eats Magdeline will be washing the dishes.  
 e. When Peter ate Magdeline washed dishes.  
 f. When Peter ate Magdeline was washing dishes.

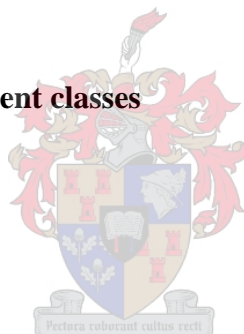
Kearns explains that the progressive in (190 d) and (190 f) extend the washing clothes into a frame around the time of Peter' s eating, which happens during the dish – washing, the simple tense in (190c) and (190 e) which report an eating followed by a dish – washing. The present progressive in (190 b) extends the dish – washing around the time of utterance giving the eating that the event is in progress at the time of speaking, in contrast with the habitual eating of the simple present tense in (190 a).

### **The four Aspectual classes**

Kearns (2000) states that the chief characteristics which determine the classification are bounding or bounded, duration and change. The distinction between bounded and unbounded is also called the telic, atelic distinction. Kearns maintains that a durative occupies time in contrast with a non – durative event containing internal changes is not identical from moment to moment. A homogenous event is unchanging from moment to moment, and all its part are uniform.

### **Kearns recognizes four aspectual event classes**

- a. States
- b. Activities
- c. Accomplishments
- d. Achievements



States are illustrated as in

- 191.a. Peter is awake
  - b. John forget the man
  - c. Nancy is in the kitchen

Kearns argues that states are unbounded or atelic they have no natural boundaries, which constitute finishing points. States are durative – they occupy time and can last for minutes. States are homogenous - they have no internal variety.

### **Process or activities illustrated as in 199**

- 192.a. Mavis strolled in the street

- b. The boys played the lotto
- c. Marilyn swam in the dam

Processes are unbounded and durative but states are heterogeneous. Accomplishments are the eventualities with the clearest and most complex structure.

Accomplishments.

193. a. Mary wrote a letter
- b. Martha draw a plan
  - c. James paint a wall

Accomplishments are the canonical bounded or telic events.

Accomplishments occupy time and are durative.

### Achievements

194. a. Thomas glanced them
- b. Marilyn noticed a finger print
  - c. Jane recognized the boy



Kearns argues that an achievement is the transaction from one state to another. Achievements are idealized to occur at a non – divisible moment in time and lack duration. An achievement's predicate represents an event as idealized to a point in much the same way that a town is idealized. An achievement is heterogeneous although its heterogeneity cannot be described as a difference between one moment and another of the event's duration.

Kearns points out that the properties of the four verbal aspectual classes are summarized above (194) and the fifth class of events is called the semelfactives. Semelfactives resemble both accomplishments and achievements in being bounded. Semelfactives are illustrated in (192-195)

195. a. James sneezed
- b. Anny clinched
  - c. Marilyn laughed

d. Elizabeth swallowed

Semelfactives are not having a clearly identifiable processes or activity stage leading up to the bounding culmination. The duration of an accomplishment is occupied by its process stage.

Kearns (2000) postulates that differences among aspectual classes are demonstrated by synthetic tests, of two kinds:

- a. The effect of adverbials, which target aspectual properties of events.
- b. The effect of tense and aspect verb forms on predicates of different classes.

The duration of unbounded events is modified by adverbials with *for*, such as *for an hour* / *for three minutes*. With an accomplishment sentences as in adverbials modifies the duration of the event as in the following examples:

- 196 a. Peter ate a banana in 3 seconds  
 b. James wrote a letter in 5 minutes  
 c. Marilyn cooked a porridge in 2 hours.

With an achievements sentence an *in* adverbial is interpreted as starting time which elapse before the event which occurs at the stated interval as in (d – f)

### **Achievements**

- d. Nancy glanced him in 2 minutes.
- e. Martin heard the boy within 30 seconds.
- f. James searched the cellphone in 4 days.

Kearns observes that these interpretations fall under the generalization that an *in* adverbial places a time point provided by the event within the stated interval. With both kinds of bounded event an *in* adverbial locates the bound of the event within or at the end of the stated interval. An unbounded event provides no in-built bound for an *in* adverbial to attach to and sentences with the combination as in (203) are anomalous.



**States**

- 197.a. The two boys were separated for three months.  
 b. The kraal was full in 20 seconds.  
 c. Mathews filled the tin in 5 minutes.

**Processes**

- a. Marilyn built the wall in two weeks  
 b. Sarina skinned the goat in 45 minutes

Predicates of all event classes in the failure tense can have an onset interpretation within an adverbial as illustrated in (203).

**States**

- 198 a. Peter will leave the room in 20 seconds  
 b. Mavis will beat Peter in 5 minutes

**Process**

- c. Albertina will milk the goats for hours.  
 d. Peter will kick the ball in 20 seconds

**Achirvements**

- e. Nancy will find the cellphone in 30 seconds  
 f. Alfred will feed the fowls in 5 minutes

**Accomplishment**

- g. Anetty will build the house in 3 hours  
 h. Gedrude will walk to the kitchen in half hour.

**Semelfectives**

- i. Albert will sneeze in 5 minutes  
 j. Nancy will prepare food in 2 minutes.

Kearns states that the freedom of onset reading for in adverbial with the future tense in adverbials are used as a diagnostic with past tense sentences. Inadverbials with an unbounded event cannot state the durative of the event unless the event is programmatically understood as an accomplishment. Semelfactives with in adverbials resemble achievements in that the adverbial cannot modify the duration of the event. As with achievements, within adverbials are more natural with semelfactives in the past tense in adverbials sentences.

### **Semelfactives**

- 199 a. Nancy sneezed in two minutes  
 b. Sina coughed in three minutes

Adverbials measure the duration of basically unbounded events and are anomalous with bounded events as in (199)

### **Accomplishments**

- 200 a. He built the house in three hours  
 b. The boys ate the bread in 2 minutes



Achievements can be understood as denoting the onset of a state and achievement. The central characteristic of semelfactives is that the iterated reading with for adverbials is the natural reading as in ( 200)

### **Semelfactives**

- 201 a. James rapped the table for 4 minutes  
 b. Peter coughed for 5 minutes

An in adverbial must be anchored by a time point which falls within the interval identifies. With a bounded event predicates the endpoint of the event provides the anchor time.

202. a. Peter built a house in an hour  
 b. Peter glazed him in an hour.

The take time construction in (201) selects bounded events, and is interpreted like in adverbials. With accomplishments the stated time is understood as the event duration, while achievements and semelfactives occur at the end of the stated interval.

### **Accomplishments**

- 203 a. It took 20 minutes for her to finish the work.  
 b. It took half an hour for them to shoot the animals.

### **Achievement**

- 204 a. It took 30 minutes to recognize the snake  
 b. It took 30 minutes to complete the work

### **Semelfactives**

- c. It took 60 minutes to sneeze  
 d. It took 20 minutes to cough



Kearns argues that the temporal reading of sentences (204c – f) suggests that take time construction primarily modifies only accomplishments. With unbounded events take time construction describes the interval to elapse before the onset of the state or process.

### **States**

- 205 a. It took two years for the family to be sad  
 b. It took 20 minutes for the classroom to be shady

### **Process**

206. a. It took 45 minutes for him the swim in the river  
 b. It took 20 minutes for them to travel to Venda

### **Non – states**

207. a. Mary rings the ball

- b. Margaret washes the clothes
- c. Asnath wrote the letter

### States

208. a. Peter shoots the birds flying
- b. Alphons switches the lights off.

Kearns (2000) observes that non – states sentences (accomplishments; achievements, processes and semelfectives) are generally interpreted as habitual in the simple present tense. States are interpreted as holding at the time of utterance, whether they are enduring states or temporary situations.

The main verb aspect test for states is the progressive. The progressive is well formed with a number of state predicates and when contracted with a simple tense form, indicates that the state is temporary.

209. a. Mavis reads the letter
- b. Mavis is reading the letter
  - c. Nancy washes the dishes
  - d. Nancy is washing the dishes.



The canonical state predicates resist the progressive altogether

210. a. He is being in Cape Town
- b. Marilyn is being fatter than Dora.
  - c. The classroom is containing 60 children

The progressive also interacts with aspectual event classes in a number of other ways. Tests for state predicates are also found in the literature on stativity. The stativity is simply the property of denoting a state.

**Agentivity**

Kearns states that certain contexts semantically require a predicate which denotes an event with an agent. The agentivity is thematic – Agentivity and aspectual class do not seem to be entirely independent. Agentive predicate are required in the complement to persuade in the imperative voice. Process and accomplish can appear with persuade but state and achievement cannot.

**Accomplishment**

- 202 a. Peter persuade John to study  
 b. Amos persuade them to enter the room.

**Process**

203. a. Albert persuaded Jane to swim in the river  
 b. Simon persuades Lettie to paint the roof.

**States**

204. a. Alfred persuade the family to be happy  
 b. Lina persuade Rider listen to outgoing members.

**Achievements**

205. a. Maction was persuaded to observe the snake in the hole  
 b. Narilyn was persuaded to notice the marks on the stoep.

Accomplishments and processes can be modified by adverbs like carefully or deliberately, but achievements and states cannot as in (1a)

**Accomplishments**

206. a. Matthews deliberately opened the door.  
 b. Anna deliberately kissed the girl.

**Process**

- c. Regina deliberately swam in the river.  
 d. Lina deliberately demolished the house

**States**

- e. The family deliberately invited the guests.
- f. Thabitha deliberately visited friends

**Achievements**

- 207. a. Sarel carefully noticed the snake in the passage
- b. Temba deliberately recognized the lion in the den.

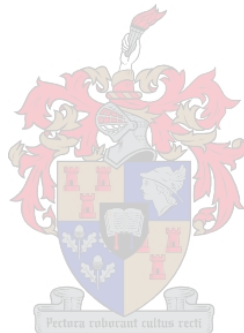
Accomplishment and process can appear in the imperative voice but achievements and states can not as in.

**Accomplishment**

- 208. a. Pour the water !
- b. Read the letter !

**Process**

- 209. a. Swim in the river!
- b. Push the wheelbarrow!

**States**

- c. Be serious!
- d. Listen the birds singing!

**Achievements**

- e. Notice the snake in the passage!
- f. Turn sixty!

The imperative in (209) is acceptable as a benediction rather than as a command comparable to may you serious. Imperatives of the form bet adjective are also well formed if they can be interpreted as containing so – called agentive as in :

210. a. Be patient  
b. Be free

These are not the commands to be in certain state but are really commands to behave in a certain fashion. Agentive be donated behaviour and really a process predicate. Only agentive predicates are appropriate in the what X did construction as in (211).

### **Accomplishment**

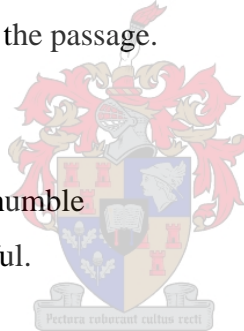
- 211 a. What Peter did was to post the letter  
b. What Jonny did was to answer the phone

### **Processes**

212. a. What Agnes did was to push a garden wheelbarrow.  
b, What Sipho did was to stroll in the passage.

### **States**

- c. What the family did was to be humble  
d. What Sipho did was to be careful.



### **Achievements**

- e. What Jones did was to recognized the snake in the passage  
f. What Simon did was to turn sixty.

The accomplishments and process may be agentive, but states and achievements are generally not agentive.

### **Internal complexity**

Kearns states that the accomplishments are the most complex events. Achievements are bounded but lack duration while states and process have duration but lack bounds. Only accomplishments can finish or be finished as finishing involves both duration and a natural termination as in (213):

213 a. Peter finished recognizing the coming train

b. Alleta finished constructing the bridge.

Another consequence of the greater complexity of accomplishments is the range of ambiguity found with almost. Almost is not analyzed as an operation in. The (b) example but as part of predicate.

### **State**

214. Peter was almost happy.

a. Past almost] s [HAPPY (S) THEME (j – s). The almost was a state and the state would have been happy and Peter would have been the theme of state.

b. Past] s (ALMOST RICH (S) & THEME (J,S). There was a state and the state was a being almost happy and Peter was the theme of the state.

### **Process**

215. Asnath almost kicked

a. Past Almost } e (kicked (e) AGENT (j, e) The almost was an event and the event would have kicking and Asnath would have been the agent of the event.

b. Past} e (ALMOST KICKED ) (e) & AGENT (j, e). There was an event and the event was an almost kicking and Asnath was the agent of the event.

### **Achievement**

216. Agnes almost } e (NOTICE (e) & EXPERIENCER (j,e) & STIMULUS (the print's )

The almost was an event and the event would have been an opening and Selby would have been the agent of the event and the door would have been the goal of event

c. Past } ALMOST RUSHED (e) AGENT (j. E) & GOAL (the door, e.j)

There was an event the event was almost running and Selby was the agent of the event and the door was the door of the event.



Kearns points out that both states and processes can show the ambiguity between (a) reading, the state or event didn't actually happen or hold but almost did and the (b) reading. Accomplishments can show three readings for almost. The modifier can target whether or not the event occurred at all as in (216a) to describe the event as almost running.

### **Interactions with the progressive**

The progressive converts an accomplishment into an unbounded event. Progressives of accomplishment predicates are modified by for adverbials rather than by in adverbials as in (217)

217. a. Peter was constructing a bridge for two years  
 b. Peter was constructing a bridge in two years  
 c. Peter constructed a bridge for two years  
 d. Peter constructed bridge in two years.

The in adverbial (217b) is either anomalous or given a repair reading in which Peter began to construct a bridge at the end of two years. The conversation of an accomplishment to its process stage removes the final bound and the completion of events is no longer expressed.

218. a. Peter constructing the bridge does not entail Peter constructed a bridge.  
 b. Peter was strolling in the passage, Peter strolled in the passage.

Peter constructed a bridge is not progress, the sentence describes the whole accomplishment event including the completion of the bridge. In converting an accomplishment to a progress, the progressive has its usual temporal frame reading.

- 219 Mable was reading the newspaper when we visited her.

The progressive predicate reading a newspaper describes the newspaper reading process. If the progressive converts a bounded to its initial process stage then it should be anomalous which achievement predicates.

A number of predicates which have been identified as achievement predicates easily take the progressive as in (220)

220. a. The hare is running to the bush today.  
 b. The motor is rolling for years.

According to Kearns the predicates run, roll have been classified as achievements because they describes instantaneous transitions. The progressive of a bounded event predicate procedures a predicate of the process stage. The progressive of achievements such as run and roll can only denote an immediate predicate to the final achievement. The temporal frame reading of the progressive emphasizes the duration of an event.

### **Countability and Boundedness**

Kearns observes that the distinction between bounded and unbounded event predicates has much in common with the distinction between count and mass NPS. Account NP such as goat and motor denotes an individual with a definite form and spatial boundary. Bounded events are bounded in time by the characteristics specified in their predicates. Unbounded events don't have inbuilt identifying boundaries which allow us to count them. Unbounded events are denoted by NPS such as salt, soil, etc. These events and substances have no inherent quantity. Basically unbounded event predicates can be modified to describe an event with a bounded form as in :

### **NP – bounded form**

- 221.a. a piece of meat  
 b. a loaf of bread

### **Event predicate – bounded form**

222. a. take the pegs – of the string  
 b. Put the load to the wheelbarrow

The modifier in (222c – d) convert unbounded event predicates to bounded event predicates by fixing an outcome which ends the end. The matter denoted by a NP with a mass noun can also be limited by a quantity expression in (223 a-b)

**NP quantity**

223.a. a bag of coal

b. a tin of jam

**Event predicate – quantity**

224. a. Reign + for 3 years

b. Stay in Durban + for 5 weeks

The quantity expression in (224 a-b) must be combined with mass nouns.

Bare plurals are like mass NPS in denoting matter without inherent outer boundaries or quantity.

Bare plurals can appear with mass quantifiers.

225. a. a lot of people

b. a room full of tables

c. There are leaves all over the floor.

The similarity between mass substances and vague entities is not surprising, according to Kearns. Non-liquid substances are made up of part, which can be isolated as individuals. Where a time quantity adverbial requires an unbounded event to modify an apparently bounded event predicate can be given in plural reading.

Accomplishments and achievements can be interpreted as repetitions, if the repetition of the event is plausible as in (225)

226. a. Timothy writes the book of 30 000 words for 3 years

b. The wind blows all over.

The repetition interpretation is the standard interpretation for semelfactives by time quantity adverbials as in (226)

227 a. Freddy sneezed throughout the day

b. Michael slept the whole day.

A vague plural event reading can be provided without repetition of the same event as in (227 a-b), while (227 c-d). The adverbial all whole day and throughout the day measure duration of unbounded occurrence.

228. a. James left the hall all day  
 b. Letty read the paper all night  
 c. Harry closed the letter all night  
 d. Asnath arrived as stadium all.

In (228 a-b) the bare plural James and Letty are the key to the plural readings. The above sentences describes a series of separate events of the same kind and the time plurality occupies the time interval. Mass NPS can be the key to unbounded readings.

### **Homogeneity and heterogeneity**

Kearns states that many mass substances are heterogeneous but comes as homogenous, the difference is the degree of detail. States and processes are durative and unbounded but are separated aspectual by the distinction between homogeneity and heterogeneity. States are homogenous because one moment of a state is like and other moment. Processes are heterogeneous, because they have different kinds of internal parts.

Kearns argues that the state / process distinction is parallel by the distinction between homogenous mass substances such as surf and milk. Homogenous substances are physically uniform to ordinary examination while heterogeneous substances have recognizable no uniform substances. The difference between homogenous events and heterogeneous unbounded events create difficulties for logical definitions of time quantity adverbials which modify unbounded events have a universal quantification character (230)

### **3. Summary**

The review of Pustejovsky's (1996) theory indicated that the handling of lexical items with multiple word senses show an insight into the problem of distinguishing accidental sharing of

lexical forms from linguistically motivated sense relations. Researchers show how constructions can adequately account for cases of polyvalency and polysemy. The larger structural units are essentially lexicalized rather than subject to general rules of composition. Pustejovsky's work showed that there are some approaches to integrate lexical graphic and computational methods within which an utterance is situated must reflect the state of the discourse. It is useful to point out the distinction between temporal culmination, where an event of anything stops and logical culmination where by something is fulfilled with regard to contrastive ambiguities, the sense enumerative approach will have to employ a rich system of selectional features to properly disambiguate senses.

It was shown in the review of Pustejovsky's theory that some researchers addressed the general issue of related word senses and how to represent them semantically. Analysis of the verbs and the relation between its possible complementation patterns and the underlying semantics of the verb, with regard to the perspective of default and shadow arguments, resulted in a rethink of the classification of certain construction. The resultative is not a semantically homogeneous class in terms of the verb entering into the construction. For verbs such as hammer and wipe, the semantic of the resulting state is contributed by the adjust adjectival predicate. The restrictions on this type of predicate come from both the complements itself as well as the verb. Qualia structure is an integrated part of the larger methodological shift from conventional approaches to lexical semantics.

The four situation types posited by Smith (1997) include the following:

### 1. Activities

Processes involve physical or mental activity, and consist entirely in the process. They have temporal features such as dynamic, Atelic and durative. Activities have the part – whole relation of cumulative events. Activities may have explicit, independent, bounds as when they appear with certain time adverbials. There are three main classes of activities one class consist of processes that are unlimited in principle. Another class of activities has definitely many internal stages and also derived shifted activities.

## 2. Accomplishments

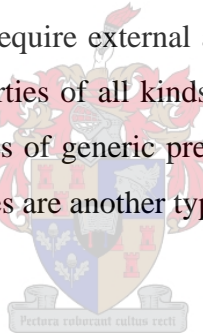
Accomplishment consist of a process followed by a resulting state. The change is the completion of the process bounded. Accomplishments are finite, intrinsically bounded. They have temporal features such as Dynamic, Telic and Durative. Accomplishments have successive stages in which the process advances to its natural final endpoint. The relation the process and outcome of an accomplishment is known as non-detachability. Not all accomplishments are complete. Accomplishment cannot be perceived directly.

## 3. Statives

States are stable situations which hold for a moment or an interval. They have the temporal features e.g. static, durative. States consist of an undifferentiated period without internal structure. They have no dynamics and require external agency for change. Statives includes the scription of concrete and abstract properties of all kinds, possession, location and other mental states. Derived statives include sentences of generic predication. Generic sentences vary widely in syntactic properties. Habitual sentences are another type of derived stative.

## 4. Achievements

Achievements are instantaneous events that result in a change of state. The properties dynamics, Telic and Instantaneous. Typical achievements are changes of state that occur quickly. The lexical span may focus on the outcome of a chain of events. Many achievements require preliminary stages. Achievements are typically controlled by an agent and should be compatible with the adverbial deliberately. Achievements allow agent-oriented adverbials, other do not.



## CHAPTER THREE

### A LEXICAL SEMANTIC ANALYSIS OF A SELECTED VERBS IN NORTHERN SOTHO

#### 3.1 INTRODUCTION

The major aim of this chapter is to explore the lexical semantic properties of argument structure and event structure of a range of verbs in Northern Sotho as they appear in sentence constructions with a locative complement. The verb classes examined for Northern Sotho include: (i) verbs of putting, (ii) verbs of removing, (iii) verbs of sending and carrying, (iv) verbs of exerting force (push/pull verbs), (v) verbs of change of possession, (vi) **learn** verbs, (vii) **hold** and **keep** verbs, verbs of **throwing**, (viii) verbs of contact by impact, (ix) verbs of cutting, (x) verbs of creation and transformation, (xi) verbs of separating and disassembling, (xii) verbs of searching, (xiii) verbs of change of state, (xiv) verbs of communication, (xv) verbs of motion, and (xvi) verbs of ingesting.

These verbs in Northern Sotho will be used transitively in sentence constructions containing a locative complement. The occurrence of the range of verbs in Northern Sotho will also be illustrated in sentences containing manner adverbials and instrument adverbials, as characteristic diagnostics for agentivity, in order to determine that these sentences illustrate accomplishment type events.

#### 3.2 ARGUMENT STRUCTURE AND EVENT STRUCTURE PROPERTIES OF SELECTED VERBS IN NORTHERN SOTHO

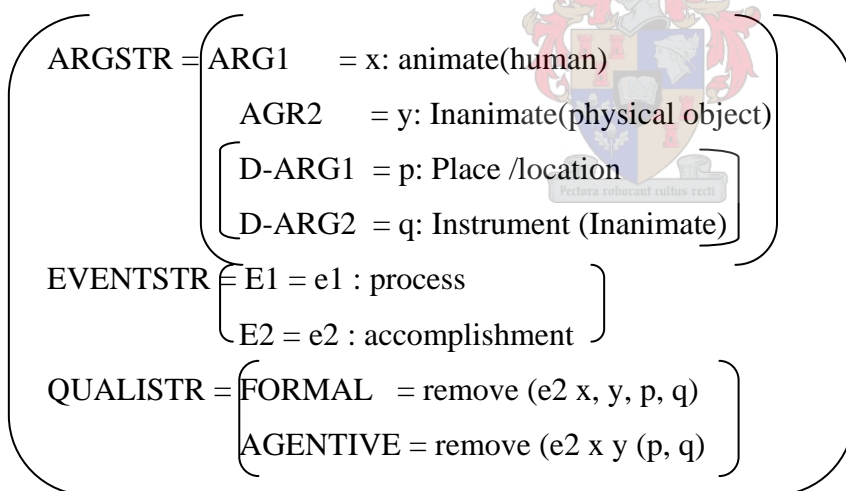
##### 1. Tloša (Remove)

- a. (i) Matome o tloša nama mokgopeng  
'Matome removes the meat on the hide'
- (ii) Matome o a e tloša nama mokgopeng
- b. (i) Matome o tloša nama mokgopeng bošego  
'Matome removes the meat on the hide in the night'
- (ii) Matome o tloša nama mokgopeng ka diiri tše pedi .  
' Matome removes the meat on the hide for two hours.'
- c. Matome o tloša nama mokgopeng ka thipa  
'Matome removes the meat on the hide with knife'
- d. Matome o tloša nama mokgopeng ka go nanya  
'Matome removes the meat on the hide slowly'

- e. Nama e tlošwa mokgopeng ke Matome.  
 ‘The meat is removed on the hide by Matome’

The example sentences with the verb **tloša** in (1a) illustrate that **tloša** (remove) is a mono-transitive verb, i.e. a two-place predicate, with **Matome** the subject argument bearing the thematic role of agent, and **Nama** (meat) as the object argument. The locative noun **Mokgopeng** (on the hide), the location argument, is a default argument. The sentence in (ii) of (1a) demonstrates the co-occurrence of the object argument **Nama** with its agreement prefix. The sentences with **tloša** (remove) in (1) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mokgopeng bošego** (in the night) in (bi), and **diiri tše pedi** (for two hours) in (bii). The agentivity of the subject argument **Matome** is supported by the possibility to use the instrumental adverbial **ka thipa** (with a knife) in (1c) and the manner adverbial **go nanya** (slowly) in (1d) with the verb **tloša** (remove). The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (1e.).

The lexical semantic representation of the verb **tloša** (remove) reflecting structural and event structural properties displayed by the sentences in (1a) is as follows:



## 2.Opela (sing)

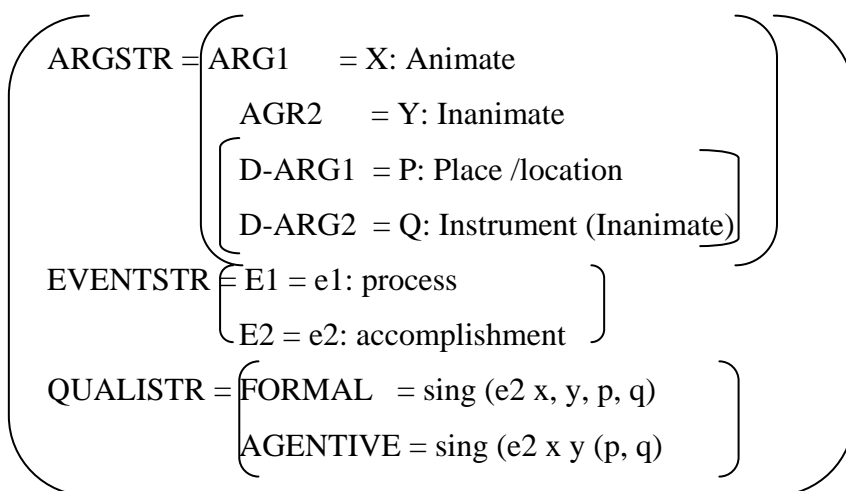
- a (i) Bašemane ba opela koma molapong  
 The boys sing an initiation song in the Valley.  
 Bašemane ba a e opela koma Molapong
- b (i) Bašemane ba opela koma molapong ka merithi  
 ‘The boy s sing an initiation song in the valley in the afternoon ’



- (ii) Bašemane ba opela koma molapong ka dibeke tše pedi .  
 ‘The boys sing an initiation song in the valley in two weeks’
- c. Bašemane ba opela koma molapong ka dinaka  
 ‘The boys sing an initiation song in the valley with horns’
- d. Bašemane ba opela koma molapong ka go phakiša  
 ‘The boys sing an initiation song in the valley quickly’
- e. Koma e opelwa molapong ke bašemane.  
 ‘ The initiation song is sung in the valley by the boys’

The example sentences with the verb **opela** in (2a) illustrate that – **opela** (sing) is a monotransitive verb, i.e. a two-place predicate, with **Bašemane** the subject argument bearing the thematic role of Agent, and **koma** (initiation song) as the object argument. The locative noun **molapong** (in the valley), the location argument, is a default argument. The sentence in (ii) of (2a) demonstrates the co-occurrence of the object argument **koma** (initiation song) with its agreement prefix. The sentences with **opela** (sing) in (2) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **dibeke tše pedi** (in two weeks) in (bii). The agentivity of the subject argument **Bašemane** is supported by the possibility to use the instrumental adverbial **ka dinaka** (with horns) in (2c) and the manner adverbial **go phakiša** (quickly) in (2d) with the verb **opela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (2e)

The lexical semantic representation of the verb **opela** reflecting structural and event structural properties displayed by the sentences in (2a) is as follows:

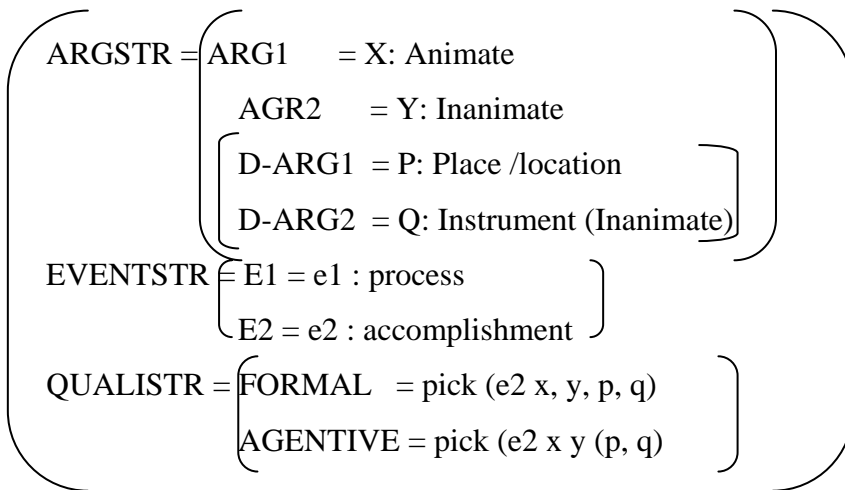


### 3. Topa (Pick)

- a. i. Mokgekolo o topa mafofa mosamelong  
‘The old woman picks the feathers on the pillow’.
- ii. Mokgekolo o a topa mafofa mosamelong
- b. i. Mokgekolo o topa mafofa mosamelong mosegare.  
‘The old woman picks the feathers on the pillow during the day.’
- ii. Mokgekolo o topa mafofa mosamelong ka diiri tše pedi .  
‘The old woman picks the feathers on the pillow for two hours’
- c. Mokgekolo o topa mafofa mosamelong ka diatla .  
‘The old woman picks the feathers on the pillow with hands’
- d. Mokgekolo o topa mafofa mosamelong ka go nanya .  
‘The old woman picks the feather on the pillow slowly ’
- e. Mafofa a topša mosamelong ke mokgekolo.  
‘The feathers are picked on the pillow by old woman’

The example sentences with the verb **topa** in (3a) illustrate that – **topa** (pick) is a monotransitive verb, i.e. a two-place predicate, with **mokgekolo** the subject argument bearing the thematic role of Agent, and **mafofa** (feathers) as the object argument. The locative noun **mosamelong** (on the pillow), the location argument, is a default argument. The sentence in (ii) of (3a) demonstrates the co-occurrence of the object argument **mafofa** (feathers) with its agreement prefix. The sentences with **topa** (pick) in (3) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **diiri tše pedi** (for two hours) in (bii). The agentivity of the subject argument **mokgekolo** is supported by the possibility to use the instrumental adverbial **ka diatla** (with hands) in (3c) and the manner adverbial **go nanya** (slowly) in (3d) with the verb **topa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (3e)

The lexical semantic representation of the verb **topa** reflecting structural and event structural properties displayed by the sentences in (3a) is as follows:



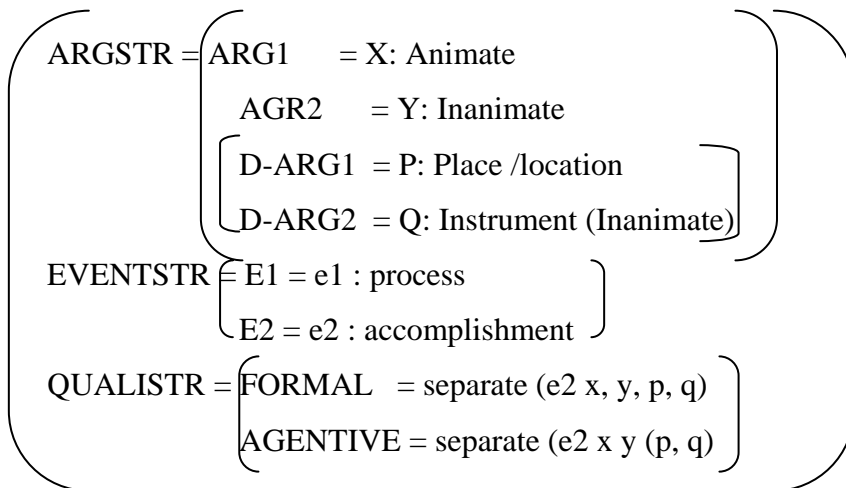
#### 4. Hlokola (separate)

- a. i. Mosadi o hlokola ditlhoka tšhemong .  
The woman separates the chaffs in the field.
- ii Mosadi o a di hlokola ditlhoka tšhemong
- b. Mosadi o hlokola ditlhoka tšhemong ka mahwibi .  
The woman separates the chaffs on the field at dawn’
- c. Mosadi o hlokola ditlhoka tšhemong ka diatla.  
The woman separates the chaffs in the field with hands
- d. Mosadi o hlokola ditlhoka tšhemong ka pelapele.  
‘ The woman separates the chaffs in the field swiftly ’
- e. Ditlhoka di hlokolwa tšhemong ke mosadi.  
‘The chaffs are separated in the field by the woman’

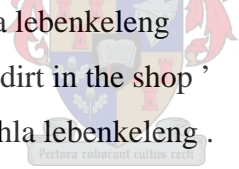
The example sentences with the verb **hlokola** in (4a) illustrate that **hlokola** (sing) is a monotransitive verb, i.e. a two-place predicate, with **mosadi** the subject argument bearing the thematic role of Agent, and **dithloka** (chaffs) as the object argument. The locative noun **tšhemong** (on the field), the location argument, is a default argument. The sentence in (ii) of (4a) demonstrates the co-occurrence of the object argument **dithloka** (chaffs) with its agreement prefix. The sentences with **hlokola** (separate) in (4) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka masa** (at dawn) in (bi) and **metsofo ye masome-nne hlano** (in forty-five minutes) in (bii). The agentivity of the subject argument **mosadi** is supported by the possibility to use the instrumental adverbial **ka sekotlelo** (with a dish) in (4c) and the manner adverbial **go pelapela** (swiftly) in (4d) with the verb **hlokola**.

The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (4e)

The lexical semantic representation of the verb **hlokola** reflecting structural and event structural properties displayed by the sentences in (4a) is as follows:



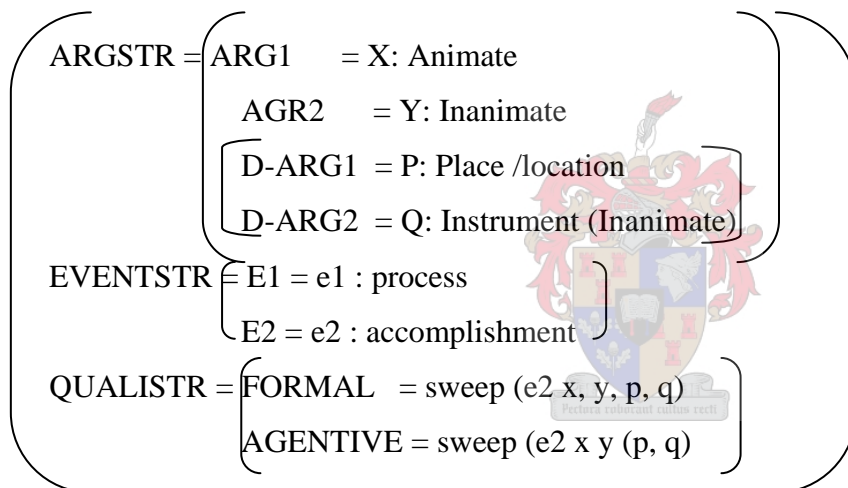
### 5. Swiela (sweep)

- 
- a. i. Morekiši o swiela makgwahla lebenkeleng  
'The shopkeeper sweeps the dirt in the shop'
- ii. Morekiši o a a swiela makgwahla lebenkeleng .
- b. i. Morekiši o swiela makgwahla lebenkeleng e sa le bošego .  
'The shopkeeper sweeps the dirt in the shop early in the morning'
- ii. Morekiši o swiela makgwahla lebenkeleng ka iri e tee.  
'The shopkeeper sweeps the dirt in the shop for one hour'
- c. Morekitši o swiela makgwahla lebenkeleng ka leswielo.  
'The shopkeeper sweeps the dirt in the shop with broom'
- d. Morekiši o swiela makgwahla lebenkeleng ka go iketla .  
'The shopkeeper sweeps the dirt in the shop slowly'
- e. Makgwahla a swielwa lebenkeleng ke morekiši .  
'The dirt is swept in the shop by the shopkeeper'

The example sentences with the verb **swiela** in (5a) illustrate that – **swiela** (sweep) is a monotransitive verb, i.e. a two-place predicate, with **morekiši** the subject argument bearing the thematic role of Agent, and **makgwahla** (dirt) as the object argument. The locative noun

**lebenkeleng** (in the shop), the location argument, is a default argument. The sentence in (ii) of (5a) demonstrates the co-occurrence of the object argument **makgwahla**(dirt) with its agreement prefix. The sentences with **swiela** (sweep) in (5) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (early in the morning) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **morekiši** is supported by the possibility to use the instrumental adverbial **ka leswielo** (with a broom) in (5c) and the manner adverbial **ka go iketla** (slowly) in (5d) with the verb **swiela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (5e)

The lexical semantic representation of the verb **swiela** reflecting structural and event structural properties displayed by the sentences in (5a) is as follows:



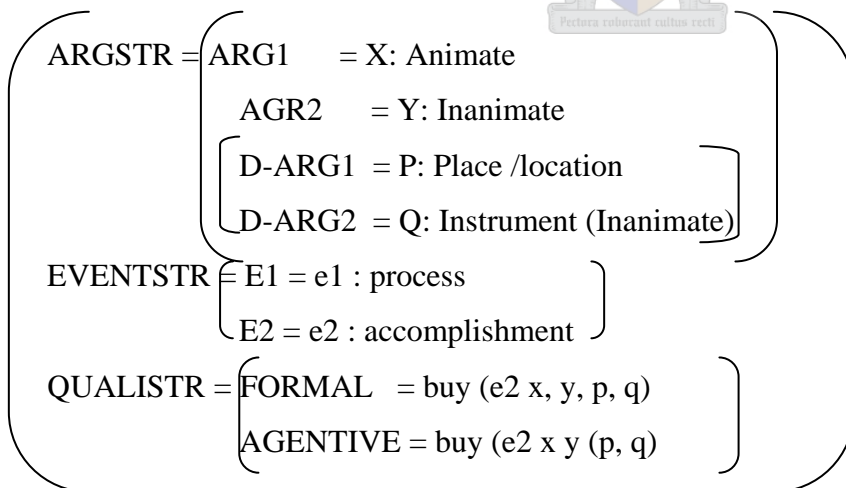
## 6. Reka (Buy)

- a.
  - i. Monna o reka borotho lepakeng  
'The man buys the bread at the bakery '
  - ii Monna o a bo reka borotho lepakeng .
- b.
  - i. Monna o reka borotho lepakeng pele letšatši le hlaba .  
'The man buys the bread in the bakery before the sunrise.
  - ii Monna o reka borotho lepakeng ka metsotso ye masome-pedi.  
'The man buys the bread in the bakery in twenty minutes '
- c. Monna o reka borotho ka kereiti.  
'The man buys the bread in the bakery with crate'

- d. Monna o reka borotho lepakeng ka go phakiša .  
‘The man buys the bread in the bakery quickly’
- e. Borotho bo rekwa lepakeng ke monna.  
‘The bread is bought in the bakery by the man’.

The example sentences with the verb **reka** in (6a) illustrate that – **reka** (buy) is a monotransitive verb, i.e. a two-place predicate, with **Monna** the subject argument bearing the thematic role of Agent, and **borotho** (bread) as the object argument. The locative noun **lepakeng** (at the bakery), the source argument, is a default argument. The sentence in (ii) of (6a) demonstrates the co-occurrence of the object argument **borotho** (bread) with its agreement prefix. The sentences with **reka** (buy) in (6) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatši le hlaba** (before the sun rise) in (bi) and **metsofso ye masome pedi** (in twenty minutes) in (bii). The agentivity of the subject argument **monna** is supported by the possibility to use the instrumental adverbial **ka kereiti** (with a crate) in (6c) and the manner adverbial **go phakiša** (quickly) in (6d) with the verb **reka**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (6e)

The lexical semantic representation of the verb **reka** reflecting structural and event structural properties displayed by the sentences in (6a) is as follows:



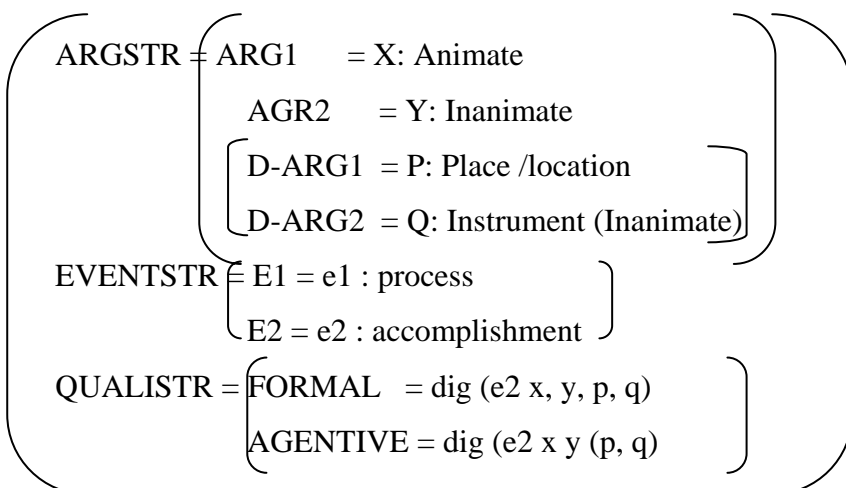
## 7. Fata (dig)

- a. (i) Mokgalabje o fata mobu khwiting  
‘ The old man digs the soil on the bank the river.
- (ii) Mokgalabje o a o fata mobu khwiting

- b. (i) Mokgalabje o fata mobu khwiting ka mahwibi .  
 ‘ The old man digs the soil on the bank of the river at dawn ’  
 (ii) Mokgalabje o fata mobu khwiting ka diiri tse dine .  
 ‘The old man digs the soil on the bank of the river for four hours’
- c. Mokgekolo o fata mobu khwiting ka mogoma.  
 ‘ The old man digs the soil on the bank of the river with hand-hoe’
- d. Mokgalabje o fata mobu khwiting ka go nanya.  
 ‘ The old man digs the soil on the bank of the river slowly.
- e. Mobu o fatwa khwiting ke mokgalabje .  
 ‘ The soil is dug on the bank of the river by the old man ’

The example sentences with the verb **fata** in (7a) illustrate that – **fata** (dig) is a monotransitive verb, i.e. a two-place predicate, with **mokgalabje** the subject argument bearing the thematic role of Agent, and **mobu** (soil) as the object argument. The locative noun **khwiting** (on the bank of the river), the location argument, is a default argument. The sentence in (ii) of (7a) demonstrates the co-occurrence of the object argument **mobu** (soil) with its agreement prefix. The sentences with **fata** (dig) in (7) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **diiri tše nne** (in four hours) in (bii). The agentivity of the subject argument **mokgalabje** is supported by the possibility to use the instrumental adverbial **ka mogoma** (with a hand-hoe) in (7c) and the manner adverbial **go nanya** (slowly) in (7d) with the verb **fata**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (7e)

The lexical semantic representation of the verb **fata** reflecting structural and event structural properties displayed by the sentences in (7a) is as follows:



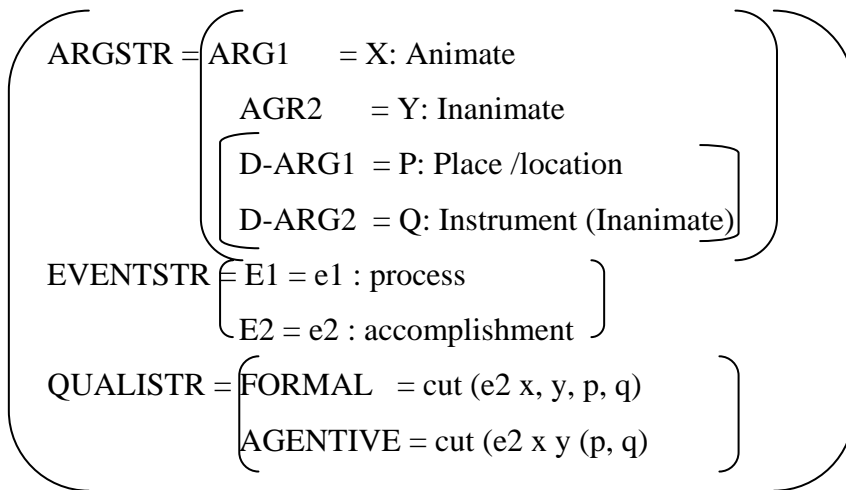
### **8. Rema (cut)**

- a. i. Mošemane o rema lekala mohlareng  
‘The boy cuts the branch on the tree’  
(ii) Mošemane o a le rema lekala mohlareng .
- b. (i) Mošemane o rema lekala mohlareng pele letšatši le sobela.  
‘The boy cuts the branch on tree before the sun sets’  
(ii) Mošemane o rema lekala ka metsotso ye lesome-hlano.  
‘The boy cut the branch on the tree in the fifteen minutes’
- c. Mošemane o rema lekala mohlareng ka selepe  
‘The boy cuts the branch on the tree with an axe’
- d. Mošemane o rema lekala mohlareng ka maatla .  
‘The boy cuts the branch on the tree powerfully.
- e. Lekala le rengwa mohlareng ke mošemane.  
‘The branch is cut on the tree by the boy’.

The example sentences with the verb **rema** in (8a) illustrate that – **rema** (cut) is a monotransitive verb, i.e. a two-place predicate, with **mošemane** the subject argument bearing the thematic role of Agent, and **lekala** (branch) as the object argument. The locative noun **mohlareng** (on the tree), the location argument, is a default argument. The sentence in (ii) of (8a) demonstrates the co-occurrence of the object argument **lekala** (branch) with its agreement prefix. The sentences with **rema** (cut) in (8) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatši le hlaba** (before the sunset) in (bi) and **metsotso ye lesome-hlano** (in fifteen minutes) in (bii). The agentivity of the subject argument **mošemane** is supported by the possibility to use the instrumental adverbial **ka selepe** (with an axe) in (8c) and the manner adverbial **go maatla** (quickly) in (8d) with the verb **rema**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (8e).

The lexical semantic representation of the verb **rema** reflecting structural and event structural properties displayed by the sentences in (8a) is as follows:





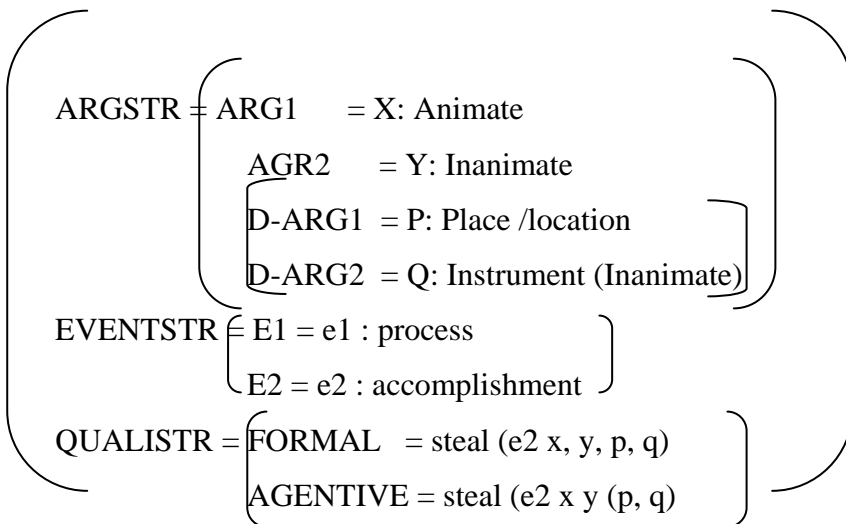
### 9. Utswa (steal)

- a (i) Lehodu le utswa tšhelete pankeng bošego  
‘A thief steals the money in the bank ’
- (ii) Lehodu le a e utswa tšhelete pankeng .
- b. (i) Lehodu le utswa tšhelete pankeng bošego  
‘The thief steals the money in the bank during the night’
- ii. Lehodu le utswa tšhelete pankeng ka metsotso ye lesome.  
‘A thief steals the money in the bank in ten minutes’
- c. Lehodu le le utswa tšhelete pankeng ka karata.  
‘A thief steals money in the bank with the card’
- d. Lehodu le utswa tšhelete pankeng ka pelapela.  
‘A thief steals the money in the bank swiftly’
- e. Tšhelete e utswiwa pankeng ke lehodu.  
‘The money is stolen in the bank by a thief’


The example sentences with the verb **utswa** in (9a) illustrate that – **utswa** (steal) is a monotransitive verb, i.e. a two-place predicate, with **lehodu** the subject argument bearing the thematic role of Agent, and **tšhelete** (money) as the object argument. The locative noun **pankeng** (in the bank), the location argument, is a default argument. The sentence in (ii) of (9a) demonstrates the co-occurrence of the object argument **tšhelete**(money) with its agreement prefix. The sentences with **utswa** (steal) in (9) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye lesome** (in ten minutes) in (bii). The agentivity of the subject argument **lehodu** is supported by the possibility to use the instrumental adverbial **ka karata** (with card) in (9c) and the manner

adverbial **ka pelapela** (swiftly) in (9d) with the verb **utswa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (9e)

The lexical semantic representation of the verb **utswa** reflecting structural and event structural properties displayed by the sentences in (9a) is as follows:



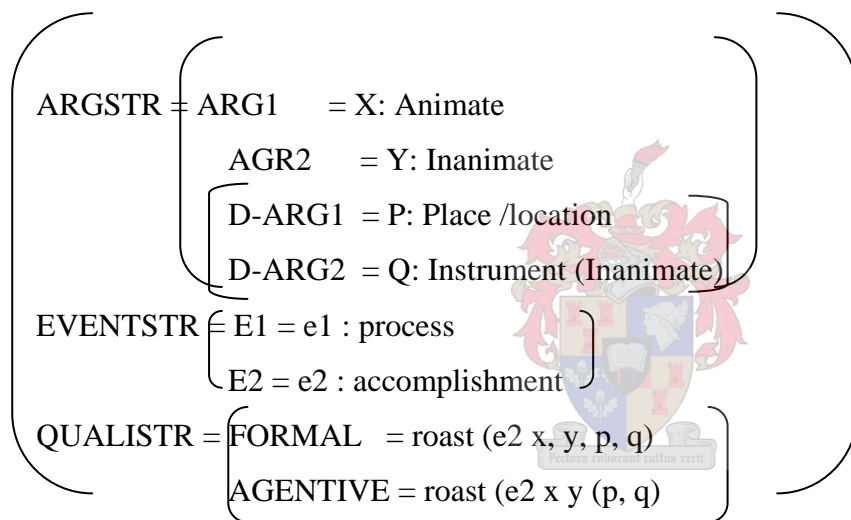
## 10. Beša (roast)

- 
- a. i. Lesiba o beša nama setofong.  
'Lesiba roasts meat on the stove'
- ii. Lesiba o a e beša nama setofong.
- b. i. Lesiba o beša nama setofong e sa le bošego.  
'Lesiba roasts meat on the stove early in the morning.'
- ii. Lesiba o beša nama ka iri e tee.  
'Lesiba roasts meat on the stove for one hour'
- c. Lesiba o beša nama setofong ka pane  
'Lesiba roasts meat on the stove with pan'
- d. Lesiba o beša nama setofong ka go nanya.  
'Lesiba roasts meat on the stove slowly '
- e. Nama e bešwa setofong ke Lesiba.  
'The meat is roasted on the stove by Lesiba'.

The example sentences with the verb **beša** in (10a) illustrate that – **beša** (roast) is a monotransitive verb, i.e. a two-place predicate, with **Lesiba** the subject argument bearing the thematic role of Agent, and **nama** (meat) as the object argument. The locative noun **setofong** (on the stove), the

location argument, is a default argument. The sentence in (ii) of (10a) demonstrates the co-occurrence of the object argument **nama** (meat) with its agreement prefix. The sentences with **beša** (roast) in (10) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bešego** (in the morning) in (bi) and **ka iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Lesiba** is supported by the possibility to use the instrumental adverbial **ka pane** (with a pen) in (10c) and the manner adverbial **go nanva** (slowly) in (10d) with the verb **beša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (10e)

The lexical semantic representation of the verb **beša** reflecting structural and event structural properties displayed by the sentences in (10a) is as follows:



### 11.Bapala (play)

- a.
  - i. Bašemane ba bapala polo lepatlelong  
'The boys are playing ball on the ground'
  - ii. Bašemane ba a e bapala polo lepatlelong
- b.
  - i. Bašemane ba bapala polo le patlelong pele letšatši le hlaba.  
'The boys are playing ball before the sunset'
  - ii. Bašemane ba bapala polo lepatlelong ka metsotso ye masomehlano.  
'The boys are playing ball on the ground for fifty minutes'
- c. Bašemane ba bapala polo lepatlelong ka dikhokho.  
'The boys are playing the ball on the ground with corks'
- d. Bašemane ba bapala polo lepatlelong ka maatla.

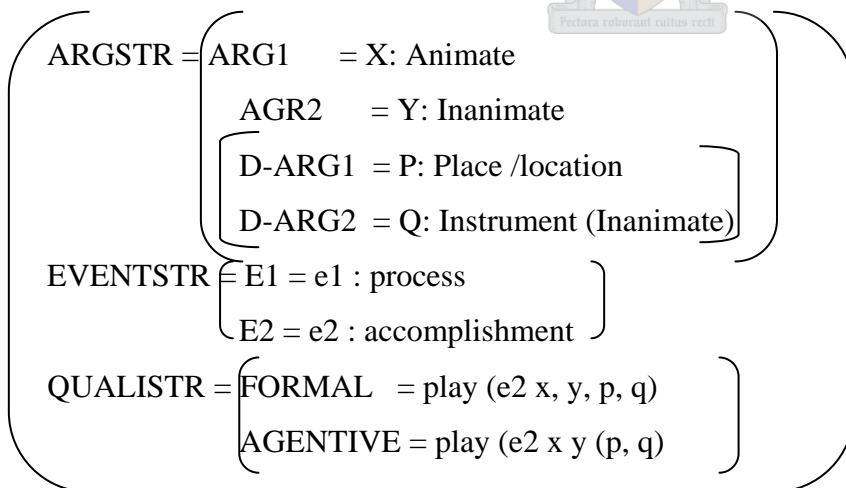
‘The boys are playing ball on the ground powerfully’

e. Polo e bapalwa lepatlelong ke bašemane

‘The ball is played on the ground by the boys’

The example sentences with the verb **bapala** in (11a) illustrate that – **bapala** (play) is a monotransitive verb, i.e. a two-place predicate, with **Bašemane** the subject argument bearing the thematic role of Agent, and **polo** (ball) as the object argument. The locative noun **lepatlelong** (on the ground), the location argument, is a default argument. The sentence in (ii) of (11a) demonstrates the co-occurrence of the object argument **polo** (ball) with its agreement prefix. The sentences with **bapala** (play) in (11) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatsi le dikela** (before the sunset) in (bi) and **metsofso ve masome hlano** (in fifty minutes) in (bii). The agentivity of the subject argument **Bašemane** is supported by the possibility to use the instrumental adverbial **ka dikhokho** (with corks) in (11c) and the manner adverbial **ka maatla** (powerfully) in (11d) with the verb **bapala**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (12e)

The lexical semantic representation of the verb **bapala** reflecting structural and event structural properties displayed by the sentences in (11a) is as follows:



## 12.Lema (plough)

a. i Balemi ba lema lehea tšhemong .

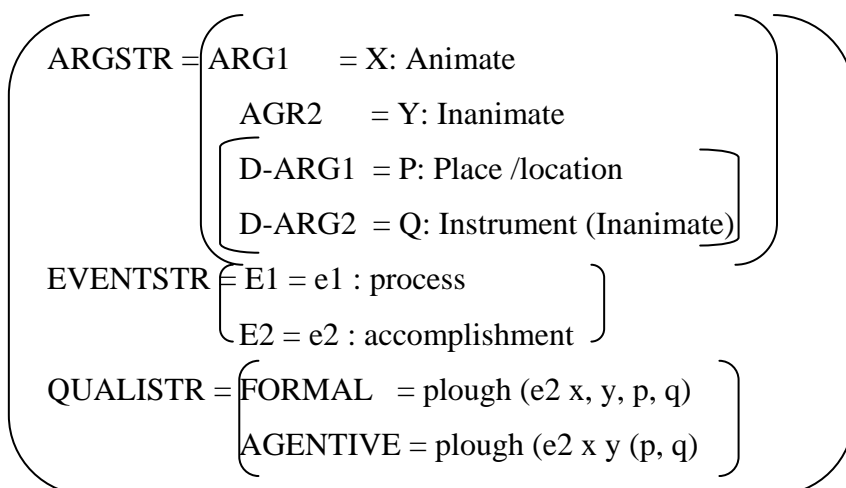
‘The farmers are ploughing the mealies in the field ’

ii. Balemi ba a a lema mahea tšhemong.

- b. i. Balemi ba lema mahea tšhemong ka mahwibi.  
‘The farmers are ploughing the mealies on the farm at dawn’
- ii. Balemi ba lema mahea tšhemong ka diiri tše lesome.  
‘The farmers are ploughing the mealies in the field in ten hours’
- c. Balemi ba lema mahea tšhemong ka megoma  
‘The farmers are ploughing the mealies in the field with hand-hoes’
- d. Balemi ba lema mahea tšhemong ka go phakiša.  
‘The farmers are ploughing the mealies in the field quickly’
- e. Mahea a lengwa tšhemong ke balemi.  
‘The mealies are ploughed in the field by the farmers’

The example sentences with the verb **lema** in (12a) illustrate that – **lema** (plough) is a monotransitive verb, i.e. a two-place predicate, with **Balemi** the subject argument bearing the thematic role of Agent, and **mahea** (mealies) as the object argument. The locative noun **tšhemong** (in the field), the location argument, is a default argument. The sentence in (ii) of (12a) demonstrates the co-occurrence of the object argument **mahea** (mealies) with its agreement prefix. The sentences with **lema** (plough) in (12) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **diiri tše lesome** (in ten hours) in (bii). The agentivity of the subject argument **Balemi** is supported by the possibility to use the instrumental adverbial **ka megoma** (with hand-hoes) in (12c) and the manner adverbial **go phakiša** (quickly) in (12d) with the verb **lema**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (12e)

The lexical semantic representation of the verb **lema** reflecting structural and event structural properties displayed by the sentences in (12a) is as follows:

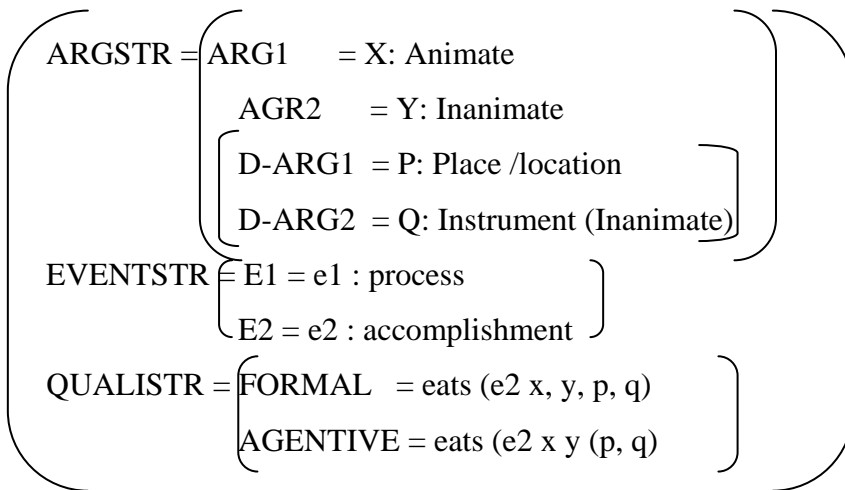


### **13. Ja (eat)**

- a.
  - i. Sepekwa se ja letswiana mohlareng.  
'The hawk eats chicken on the tree'
  - ii. Sepekwa se a le ja letswiana mohlareng.
- b.
  - i. Sepekwa se ja letswiana mohlareng mosegare.  
'The hawk eats chicken on the tree during the day'
  - ii. Sepekwa se ja letswiana mohlareng ka metsotswanyana ye masometharo-šupa.  
'The hawk eat chicken on the tree in thirty seven seconds'
- c. Sepekwa se ja letswiana mohlareng ka molomo.  
'The hawk eats chicken on tree with beak'
- d. Sepekwa se ja letswiana mohlareng ka go phakiša .  
'The hawk eats chicken on the tree quickly'
- e. Letswiana le jewa mohlareng ke sepekwa.  
'The chicken is eaten on the tree by hawk'

The example sentences with the verb **ja** in (13a) illustrate that – **ja** (eats) is a monotransitive verb, i.e. a two-place predicate, with **Sepekwa** the subject argument bearing the thematic role of Agent, and **letswiana** (chicken) as the object argument. The locative noun **mohlareng** (on the tree), the location argument, is a default argument. The sentence in (ii) of (13a) demonstrates the co-occurrence of the object argument **letswiana** (chicken) with its agreement prefix. The sentences with **ja** (eats) in (13) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsotswana ye masome tharo šupa** (in thirty-seven seconds) in (bii). The agentivity of the subject argument **Sepekwa** is supported by the possibility to use the instrumental adverbial **ka molomo** (with a beak) in (13c) and the manner adverbial **go phakiša** (quickly) in (13d) with the verb **ja**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (13e)

The lexical semantic representation of the verb **ja** reflecting structural and event structural properties displayed by the sentences in (13a) is as follows:



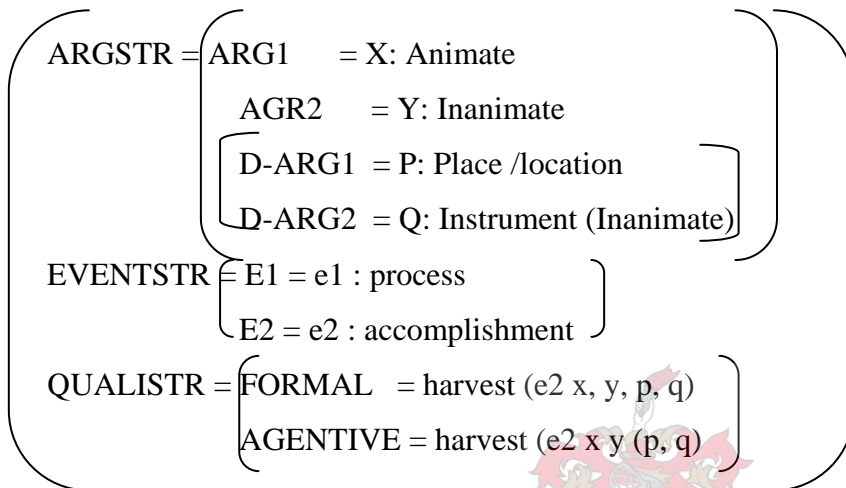
#### 14. Buna (Harvest)

- a. i. Lesetša o buna lehea tšhemong.  
‘Lesetša harvests mealies in the field.
- ii. Lesetša o a le buna lehea tšhemong.
- b. i. Lesetša o o buna lehea tšhemong mosegare a sekgalela.  
‘Lesetša o harvests the mealies in the field in the midday.
- ii. Lesetša o buna lehea tšhemong ka diiri tše dine.  
‘Lesetša harvest mealies in the field in four hours’
- c. Lesetša o buna lehea tšhemong ka sekele.  
‘Lesetša harvests mealies in the field with cicle’
- d. Lesetša o buna lehea tšhemong ka go nanya.  
‘Lesetša harvests mealies in the field slowly’
- e. Lehea le bunwa tšhemong ke Lesetša.  
‘The mealies are harvested in the field by Lesetša.

The example sentences with the verb **buna** in (14a) illustrate that – **buna** (harvest) is a monotransitive verb, i.e. a two-place predicate, with **Lesetša** the subject argument bearing the thematic role of Agent, and **lehea** (mealies) as the object argument. The locative noun **tšhemong** (on the field), the location argument, is a default argument. The sentence in (ii) of (14a) demonstrates the co-occurrence of the object argument **lehea** (mealies) with its agreement prefix. The sentences with **buna** (harvest) in (14) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare wa sekgalela** (in the midday) in (bi) and **diiri tše nne** (in four hours) in (bii). The agentivity of the subject

argument **Lesetša** is supported by the possibility to use the instrumental adverbial **ka sekele** (cicle) in (14c) and the manner adverbial **go nanva** (slowly) in (14d) with the verb **buna**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (14e)

The lexical semantic representation of the verb **buna** reflecting structural and event structural properties displayed by the sentences in (14a) is as follows:



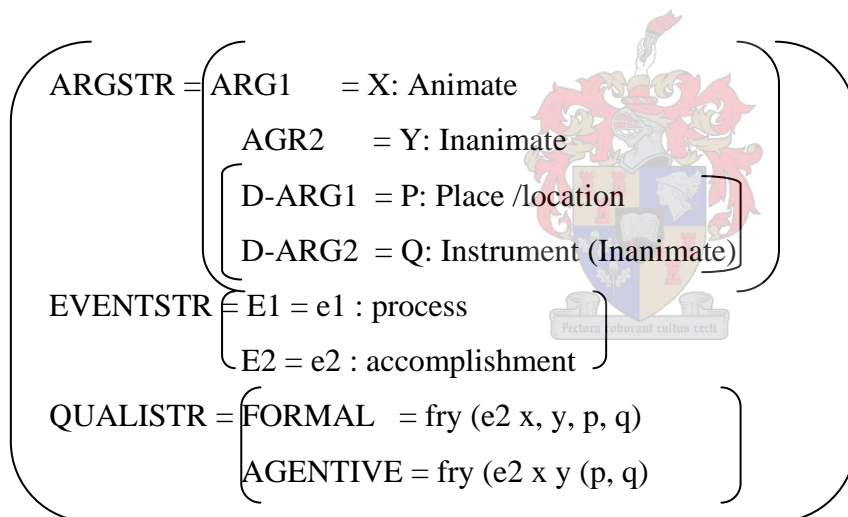
### 15 . Gadika (fry)

- a (i) Mosadi o gadika mae setofong  
'The woman fries eggs on the stove'
- (ii) Mosadi o a a gadika mae setofong
- b (i) Mosadi o gadika mae setofong e sa le bošego  
The woman fries eggs on the stove early in the morning
- (ii) Mosadi o gadika mae setofong ka metsotswanyana ye lesomehlano  
The woman fries eggs on the stove for fifteen seconds.
- c. Mosadi o gadika mae setofong ka sosopane  
The woman fries eggs on the stove with a saucepan
- d. Mosadi o gadika mae setofong ka go phakiša  
The woman fries eggs on the stove quickly '
- e. Mae a gadikwa setofong ke mosadi  
'The eggs are fried on the stove by the Woman'.



The example sentences with the verb **gadika** in (15a) illustrate that – **gadika** (fry) is a monotransitive verb, i.e. a two-place predicate, with **Mosadi** the subject argument bearing the thematic role of Agent, and **mae** (egg) as the object argument. The locative noun **setofong** (in the valley), the location argument, is a default argument. The sentence in (ii) of (15a) demonstrates the co-occurrence of the object argument **mae** (egg) with its agreement prefix. The sentences with **gadika** (fry) in (15) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka masa** (early in the morning) in (bi) and **metsotswana ye lesome-hlano** (for fifteen seconds) in (bii). The agentivity of the subject argument **Mosadi** is supported by the possibility to use the instrumental adverbial **ka sosopane** (with saucepaan) in (15c) and the manner adverbial **go phakiša** (quickly) in (15d) with the verb **gadika**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (15e)

The lexical semantic representation of the verb **gadika** reflecting structural and event structural properties displayed by the sentences in (15a) is as follows:



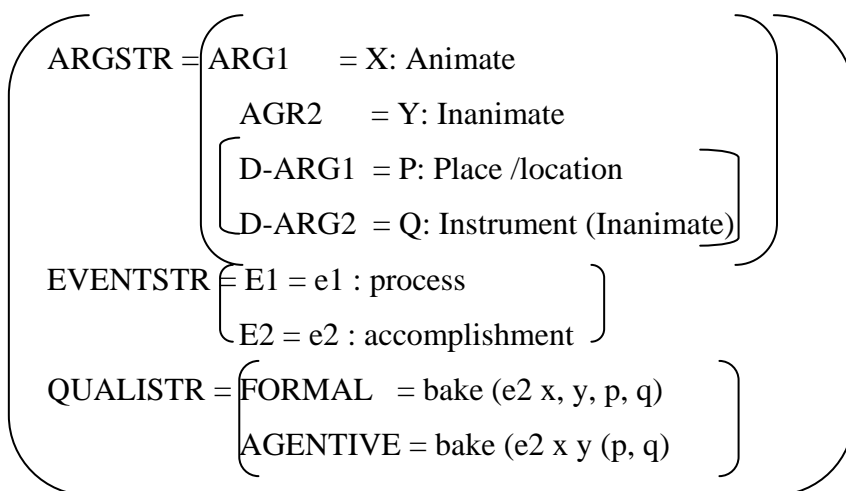
### 16.Paka (bake)

- a.
  - i. Mosetsana o paka borotho obeneng.  
'The girl bakes the bread in the oven'
  - ii. Mosetsana o a bo paka borotho obeneng
- b.
  - i. Mosetsana o paka borotho obeneng ka merithi.  
'The girl bake the bread in the oven in the afternoon'
  - ii. Mosetsana o paka borotho obeneng ka diiri tše tshelago.  
'The girl bakes the bread in the oven for six hours.'

- c. Mosetsana o paka borotho obeneng ka therei.  
‘The girl bakes the bread in the oven with a tray’
- d. Mosetsana o paka borotho obeneng ka maatla.  
‘The girl bakes the bread in the oven with tray’
- e. Borotho bo pakwa obeneng ke mosetsana.  
‘Bread is baked in the oven by the girl’

The example sentences with the verb **paka** in (16a) illustrate that – **paka** (bake) is a monotransitive verb, i.e. a two-place predicate, with **Mosetsana** the subject argument bearing the thematic role of Agent, and **borotho** (bread) as the object argument. The locative noun **obeneng** (in the oven), the location argument, is a default argument. The sentence in (ii) of (16a) demonstrates the co-occurrence of the object argument **borotho** (bread) with its agreement prefix. The sentences with **paka** (bake) in (16) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **diiri tše tshelagolo** (for six hours) in (bii). The agentivity of the subject argument **Mosetsana** is supported by the possibility to use the instrumental adverbial **ka therei** (with a tray) in (16c) and the manner adverbial **go maatla** (powerfully) in (16d) with the verb **paka**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (16e)

The lexical semantic representation of the verb **paka** reflecting structural and event structural properties displayed by the sentences in (16a) is as follows:

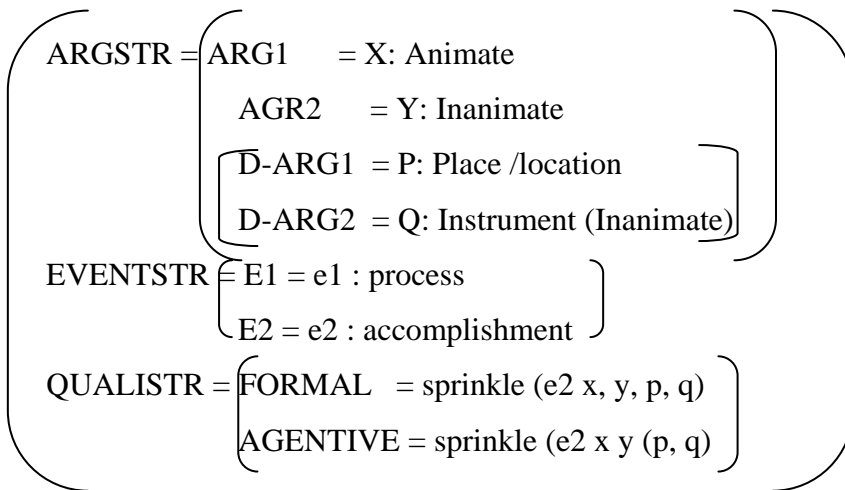


### 17.Noka (sprinkle)

- a. i. Monna o noka letswai nameng.  
‘The man sprinkles salt on the meat.
- ii. Monna o a le noka letswai nameng
- b. i Monna o noka letswai nameng pele letšatši le sobela.  
‘The man sprinkles salt on the meat before the sun set’
- ii. Monna o noka letswai nameng ka metsotso ye mebedi.  
‘The man sprinkles salt on the meat for two minutes.
- c. Monna o noka letswai nameng ka lelepola  
‘The man sprinkles salt on the meat with spoon.
- d, Monna o noka letswai nameng ka go phakisa  
‘The man sprinkles salt on the meat quickly.
- e. Letswai le nokwa nameng ke monna .  
‘ Salt is sprinkled on the meat by the man

The example sentences with the verb **noka** in (17a) illustrate that – **noka** (sprinkle) is a monotransitive verb, i.e. a two-place predicate, with **Monna** the subject argument bearing the thematic role of Agent, and **letswai** (salt) as the object argument. The locative noun **nameng** (on the meat), the location argument, is a default argument. The sentence in (ii) of (17a) demonstrates the co-occurrence of the object argument **letswai** (salt) with its agreement prefix. The sentences with **noka** (sprinkle) in (17) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatši le dikela** (before the sunset) in (bi) and **metsotso ye mebedi** (for two minutes) in (bii). The agentivity of the subject argument **Monna** is supported by the possibility to use the instrumental adverbial **ka lelepola** (with a spoon) in (17c) and the manner adverbial **go phakiša** (quickly) in (17d) with the verb **noka**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (17e)

The lexical semantic representation of the verb **noka** reflecting structural and event structural properties displayed by the sentences in (17a) is as follows:



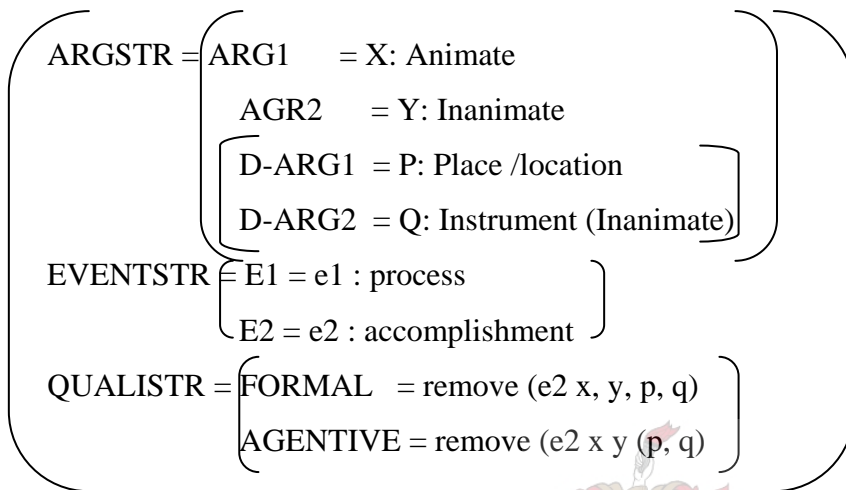
### 18. Ntsha (Remove)

- a. i. Mokgekolo o ntšha bogobe pitšeng.  
 ‘The old woman removes the porridge from the pot’
- ii. Mokgekolo o a bo ntšha bogobe pitšeng.
- b. i. Mokgekolo o ntšha bogobe pitšeng.  
 ‘The old woman removes the porridge from the pot.’
- ii. Mokgekolo o ntšha bogobe pitšeng ka metsotso ye mebedi.  
 ‘The old woman removes the porridge from the pot in two minutes.’
- c. Mokgekolo o ntšha bogobe pitšeng ka leho.  
 ‘The old woman removes the porridge from the pot with a wooden-spoon’
- d. Mokgekolo o ntšha bogobe pitšeng ka go iketla.  
 ‘The old woman removes the porridge from the pot gently’.
- e. Bogobe bo ntšhwa pitšeng ke mokgekolo.  
 he porridge is removed from the pot by the old woman’.

The example sentences with the verb **ntšha** in (18a) illustrate that – **ntšha** (remove) is a monotransitive verb, i.e. a two-place predicate, with **Mokgekolo** the subject argument bearing the thematic role of Agent, and **bogobe** (porridge) as the object argument. The locative noun **pitšeng** (from the pot), the location argument, is a default argument. The sentence in (ii) of (18a) demonstrates the co-occurrence of the object argument **bogobe** (porridge) with its agreement prefix. The sentences with **ntšha** (remove) in (18) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye mebedi** (in two minutes) in (bii). The agentivity of the subject argument **Mokgekolo** is supported by the possibility to use the instrumental adverbial **ka leho** (with a wooden

spoon) in (18c) and the manner adverbial **go iketla** (gently) in (18d) with the verb **ntšha**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (18e)

The lexical semantic representation of the verb **ntšha** reflecting structural and event structural properties displayed by the sentences in (18a) is as follows:

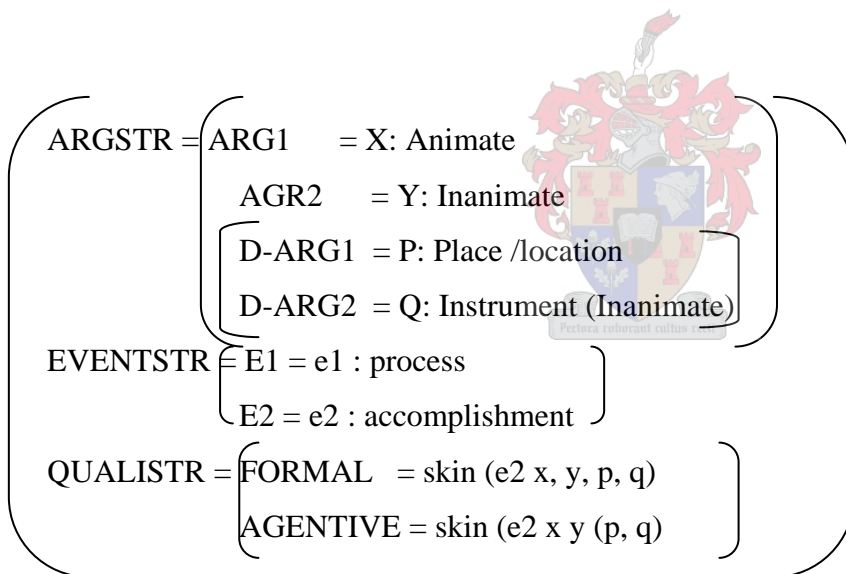


### 19. Tswiya (skin)

- a. i. Makgema a tswiya phoofolo nageng.  
'The cannibals skin the animal in the veld'
- ii. Makgema a e tswiya phoofolo nageng.
- b. i. Makgema a tswiya phoofolo nageng bošego.  
'The cannibals skin the animal in the veld in the night'
- b. ii. Makgema a tswiya phoofolo nageng ka metsotso ye seswai.  
'The cannibals skin the animal in the veld for eight minutes'
- c. Makgema a tswiya phoofolo nageng ka thipa.  
'The cannibas skin the animal in the veld with a knife'.
- d. Makgema a tswiya phoofolo nageng ka go phakiša.  
'The cannibals skin the animal in the veld quickly.
- e. Phoofolo e tswiwa nageng ke Makgema.  
'The animal is skinned in the veld by cannibals'.

The example sentences with the verb **tswiya** in (19a) illustrate that – **tswiya** (skin) is a monotransitive verb, i.e. a two-place predicate, with **Makgema** the subject argument bearing the thematic role of Agent, and **phoofolo** (animal) as the object argument. The locative noun **nageng** (on the veld), the location argument, is a default argument. The sentence in (ii) of (19a) demonstrates the co-occurrence of the object argument **phoofolo** (animal) with its agreement prefix. The sentences with **tswiya** (skin) in (19) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metso tso ye seswai** (in eight minutes) in (bii). The agentivity of the subject argument **Makgema** is supported by the possibility to use the instrumental adverbial **ka thipa** (with a knife) in (19c) and the manner adverbial **go phakiša** (quickly) in (19d) with the verb **tswiya**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (19e)

The lexical semantic representation of the verb **tswiya** reflecting structural and event structural properties displayed by the sentences in (19a) is as follows:



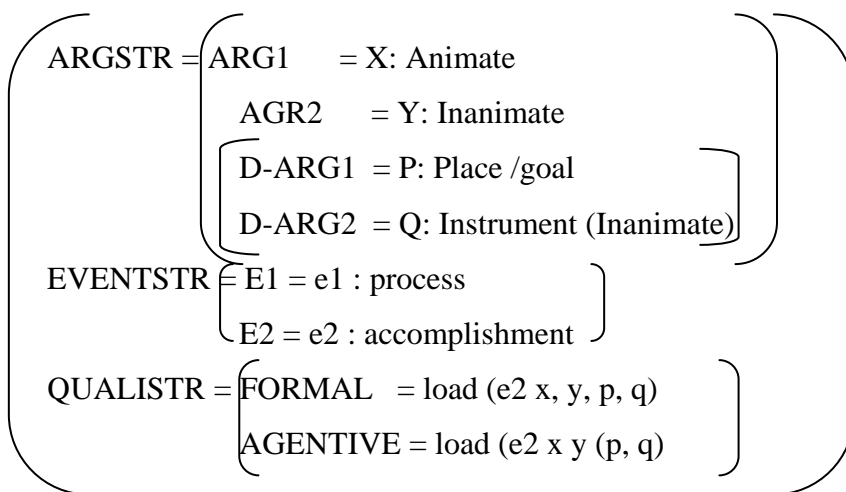
## 20. Nametša (load)

- a. i. Banna ba nametša furu koloing  
'The men load hay on the car'
- ii. Banna ba a e nametša furu koloing.
- b. i. Banna ba nametša furu koloing ka merithi  
'The men load hay on the car in the afternoon'
- ii. Banna ba nametša furu koloing ka iri e tee.

- ‘The men load hay on the car in one hour’
- c. Banna ba nametša furu koloing ka mapolanka.  
‘The men load hay on the car with planks’
- d. Banna ba nameša furu koloing ka maatla.  
‘The men load hay on the car powerfully’
- e. Furu e nametšwa koloing ke banna.  
‘The hay is loaded on the car by men’

The example sentences with the verb **nametša** in (20a) illustrate that – **nametša** (load) is a monotransitive verb, i.e. a two-place predicate, with **Banna** the subject argument bearing the thematic role of Agent, and **furu** (hay) as the object argument. The locative noun **koloing** (in the car), the goal argument, is a default argument. The sentence in (ii) of (20a) demonstrates the co-occurrence of the object argument **furu** (hay) with its agreement prefix. The sentences with **nametša** (load) in (20) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **iri e tee** (in one hour) in (bii). The agentivity of the subject argument **Banna** is supported by the possibility to use the instrumental adverbial **ka mapolanka** (with timbers) in (20c) and the manner adverbial **ka maatla** (powerfully) in (20d) with the verb **nametša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (20e)

The lexical semantic representation of the verb **nametša** reflecting structural and event structural properties displayed by the sentences in (20a) is as follows:



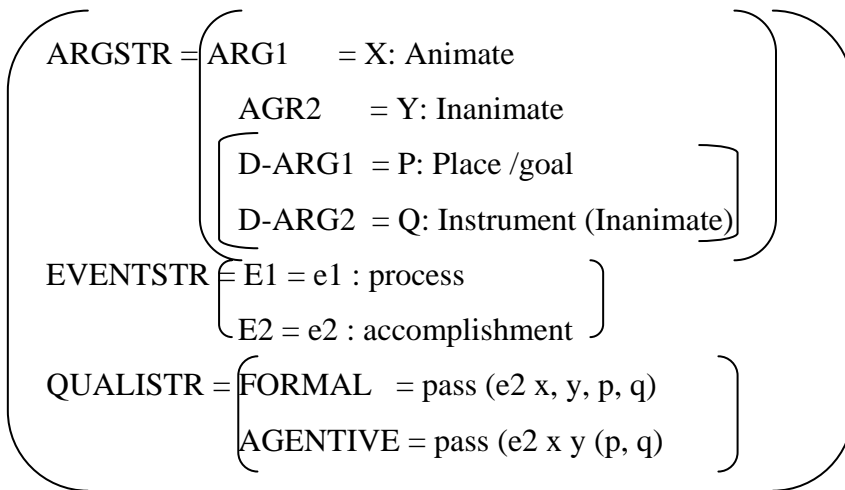
## 21. Raga (Pass)

- a. i., Mošemane o raga polo dinweng  
‘The boy passes the ball to the goal’
- ii. Mošemane o e ragela polo dinweng .  
‘The boy passes the ball in the goal during the day’
- b. i. Mošemane o raga polo dinweng mosegare.  
‘The boy passes the ball in the goal during the day’
- ii. Mošemane o o raga polo dinweng ka metsotso ye mehlano.  
‘The boy passes the ball to the goal in five minutes’
- c. Mošemane o raga polo dinweng ka peitone.  
‘The boy pass ball to the goal with baton’
- d. Mošemane o raga polo dinweng ka go iketla .  
‘The boy pass ball to the goal gently’
- e.. Polo e ragwa dinweng ke mošemane .  
‘The ball is passed to the goal by the boy’

The example sentences with the verb **raga** in (21a) illustrate that – **raga** (pass) is a monotransitive verb, i.e. a two-place predicate, with **Mošemane** the subject argument bearing the thematic role of Agent, and **polo** (the ball) as the object argument. The locative noun **dinweng** (in the goal), the goal argument, is a default argument. The sentence in (ii) of (21a) demonstrates the co-occurrence of the object argument **polo** (ball) with its agreement prefix. The sentences with **raga** (pass) in (21) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsotso ye mehlano** (in five minutes) in (bii). The agentivity of the subject argument **Mošemane** is supported by the possibility to use the instrumental adverbial **ka peithone** (with baton) in (21c) and the manner adverbial **go iketla** (gently) in (21d) with the verb **raga**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (21e)

The lexical semantic representation of the verb **ragela** reflecting structural and event structural properties displayed by the sentences in (21a) is as follows:





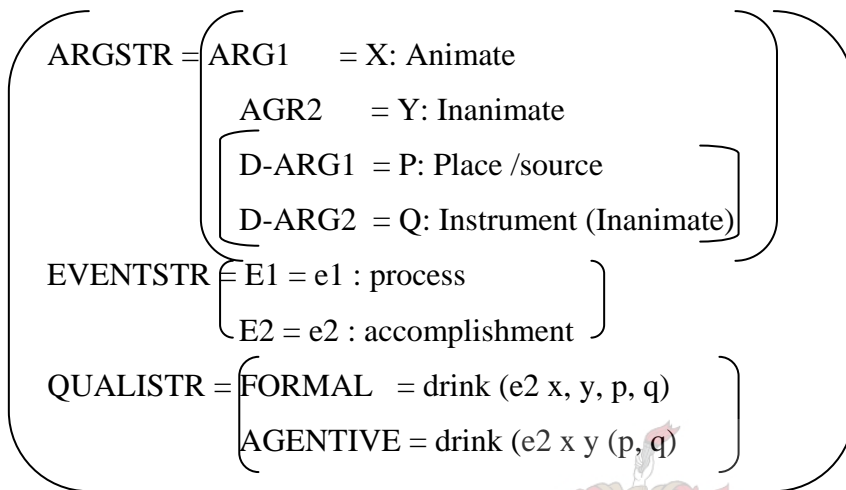
## 22. Nwa (Drink)

- a. i. Ramaesela o nwa tee komiking  
‘Ramaesela is drinking tea from the cup’
- ii. Ramaesela o a e nwa tee komiking.
- b. i. Ramaesela o nwa tee komiking e sa le bošego  
‘Ramaesela is drinking tea from the cup in the morning’
- ii. Ramaesela o nwa tee komiking ka metsotso ye šupago  
‘Ramaesela is drinking tea from the cup in seven minutes ‘
- c. Ramaesela o nwa tee komiking ka lelepola  
‘Ramaesela is drinking in the cup with tea spoon’
- d. Ramaesela o nwa tee komiking ka go nanya.  
‘Ramaesela is drinking tea in the cup slowly’
- e. Tee e newa komiking ke Ramaesela .  
‘Tea is drunk from the cup by Ramaesela’

The example sentences with the verb **nwa** in (22a) illustrate that – **nwa** (drink) is a monotransitive verb, i.e. a two-place predicate, with **Ramaesela** the subject argument bearing the thematic role of Agent, and **tee** (tea) as the object argument. The locative noun **komiking** (in the cup), the source argument, is a default argument. The sentence in (ii) of (22a) demonstrates the co-occurrence of the object argument **tee** (tea) with its agreement prefix. The sentences with **nwa** (drink) in (22) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **metsotso ye šupago** (in seven minutes) in (bii). The agentivity of the subject argument **Ramaesela** is supported by the

possibility to use the instrumental adverbial **ka lelepol**a (with a teaspoon) in (22c) and the manner adverbial **go nanya** (slowly) in (22d) with the verb **nwa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (22e)

The lexical semantic representation of the verb **nwa** reflecting structural and event structural properties displayed by the sentences in (22a) is as follows:

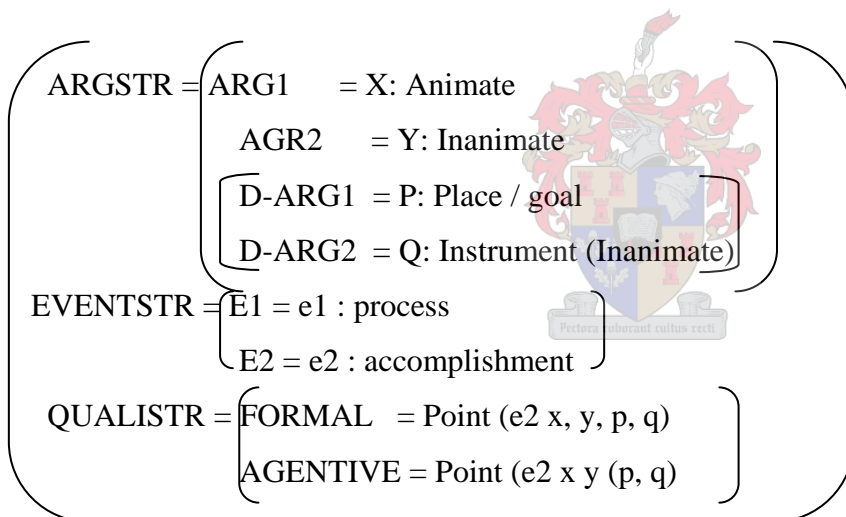


### 23.Šupa (point)

- a.
  - i. Lina o šupa molalatladi legodimong  
'Lina points the rainbow in the sky'
  - ii. Lina o a o šupa molalatladi legodimong.
- b.
  - i. Lina o šupa molalatladi legodimong mosegare.  
'Lina points the rainbow in the sky during the day'
  - ii. Lina o šupa molalatladi legodimong ka metsotswana.ye meraro.  
'Lina points the rainbow in the sky in three seconds'
- c. Ngwana o šupa molalatladi legodimong ka monwana  
'The child points rainbow in the sky with a finger'
- d. Ngwana o supa molalatladi legodimong ka pelapela  
'The child points rainbow in the sky swiftly'
- e. Molalatladi o šupša legodimong ke ngwana.  
'The rainbow is pointed in the sky by the child'

The example sentences with the verb **šupa** in (23a) illustrate that – **šupa** (point) is a monotransitive verb, i.e. a two-place predicate, with **Ngwana** the subject argument bearing the thematic role of Agent, and **molalatladi** (rainbow) as the object argument. The locative noun **legodimong** (in the sky), the goal argument, is a default argument. The sentence in (ii) of (23a) demonstrates the co-occurrence of the object argument **molalatladi** (rainbow) with its agreement prefix. The sentences with **šupa** (point) in (23) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsotswana ye mebedi** (in two seconds) in (bii). The agentivity of the subject argument **Ngwana** is supported by the possibility to use the instrumental adverbial **ka monwana** (with a finger) in (23c) and the manner adverbial **ka pelepele** (swiftly) in (23d) with the verb **šupa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (23e)

The lexical semantic representation of the verb **šupa** reflecting structural and event structural properties displayed by the sentences in (23a) is as follows:



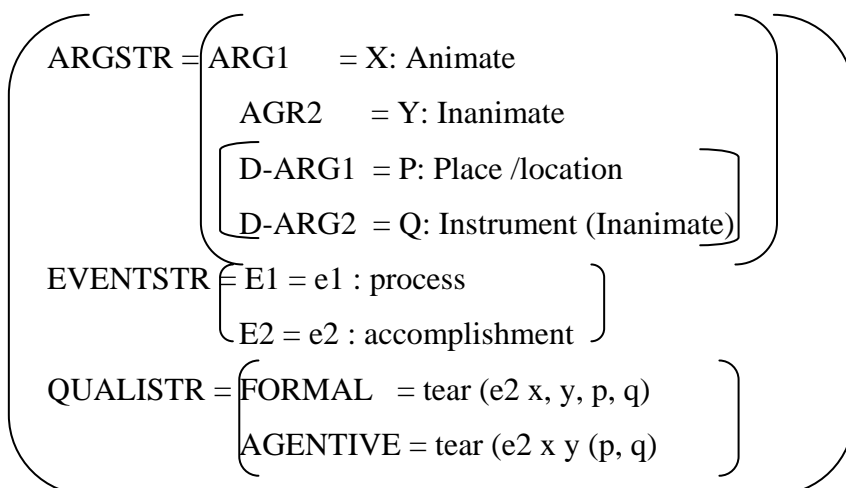
#### **24. Gagola (tear)**

- a. i Sara o gagola borokgo dinokeng  
 ‘Sara tears the trousers on the waist’
- ii. Sara o a bo gagola borokgo dinokeng.
- b. i Sara o gagola borokgo dinokeng bošego  
 ‘Sara tears the trousers on the waist during the night’
- ii. Sara o gagola borokgo dinokeng ka metsotso ye lesome.  
 Sara tears the trousers on the waist in ten minutes’

- c. Sara o gagola borokgo dinokeng ka sekero  
‘Sara tears the trousers on the waist with a pair of scissors’
- d. Sara o gagola borokgo dinokeng ka maatla.  
Sara tears the trousers on the waist powerfully’
- e. Borokgo bo gagolwa dinokeng ke Sara.  
‘The trousers are torn on the waist by Sara’

The example sentences with the verb **gagola** in (24a) illustrate that – **gagola** (tear) is a monotransitive verb, i.e. a two-place predicate, with **Sara** the subject argument bearing the thematic role of Agent, and **borokgo** (trouser) as the object argument. The locative noun **dinokeng** (on the waist), the location argument, is a default argument. The sentence in (ii) of (24a) demonstrates the co-occurrence of the object argument **borokgo** (trouser) with its agreement prefix. The sentences with **gagola** (tear) in (24) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsofso ye lesome** (in ten minutes) in (bii). The agentivity of the subject argument **Sara** is supported by the possibility to use the instrumental adverbial **ka sekero** (with a pair of scissors) in (24c) and the manner adverbial **ka maatla** (powerfully) in (24d) with the verb **gagola**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (24e)

The lexical semantic representation of the verb **gagola** reflecting structural and event structural properties displayed by the sentences in (24a) is as follows:

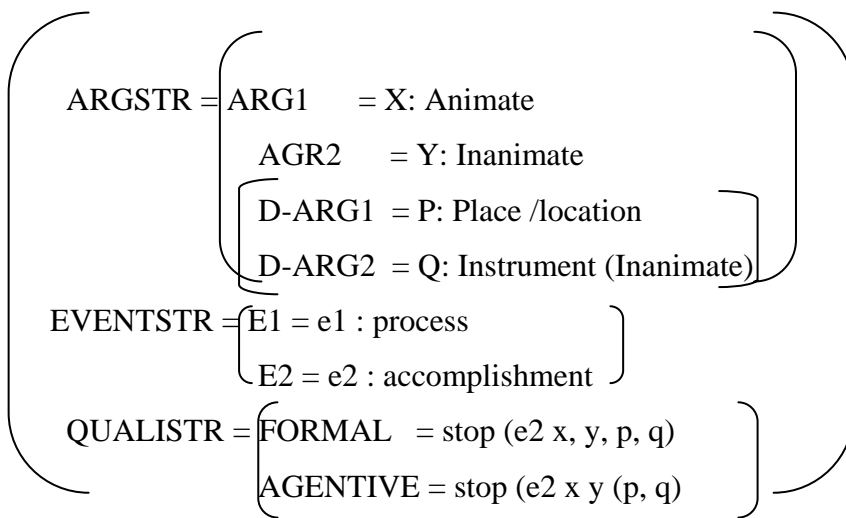


**25.Emiša (stop)**

- a. i. Mantati o emiša dipere letsopeng.  
‘Mantati stops the horses on the clay’
- ii. Mantati o a di emiša dipere letsopeng
- b. i. Mantati o emiša dipere letsopeng pele letšatši le sobela  
‘Mantati stops the horses on the clay before the sun set’
- ii. Mantati o emiša dipere letsopeng ka metsotswana ye lesome –nne.  
‘Mantati stops the horses on the clay in forty seconds’
- c. Mantati o emiša dipere letsopeng ka maleisele.  
‘Mantati stops the horses on the clay with levers’
- d. Mantati o emiša dipere letsopeng ka go iketla.  
‘Mantati stops the horses on the clay peacefully’
- e. Dipere di emišwa letsopeng ke Mantati.  
‘The horses are stopped on the clay by Mantati’

The example sentences with the verb **emiša** in (25a) illustrate that – **emiša** (stop) is a monotransitive verb, i.e. a two-place predicate, with **Mantati** the subject argument bearing the thematic role of Agent, and **dipere** (horses) the object argument. The locative noun **letsopeng** (on the clay), the location argument, is a default argument. The sentence in (ii) of (25a) demonstrates the co-occurrence of the object argument **dipere** (horses) with its agreement prefix. The sentences with **emiša** (stop) in (25) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatši le dikela** (before the sunset) in (bi) and **metsotswana ye masome-nne** (in forty seconds) in (bii). The agentivity of the subject argument **Mantati** is supported by the possibility to use the instrumental adverbial **ka maleisele** (with levers) in (25c) and the manner adverbial **go iketla** (peacefully) in (25d) with the verb **emiša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (25e)

The lexical semantic representation of the verb **emiša** reflecting structural and event structural properties displayed by the sentences in (25a) is as follows:



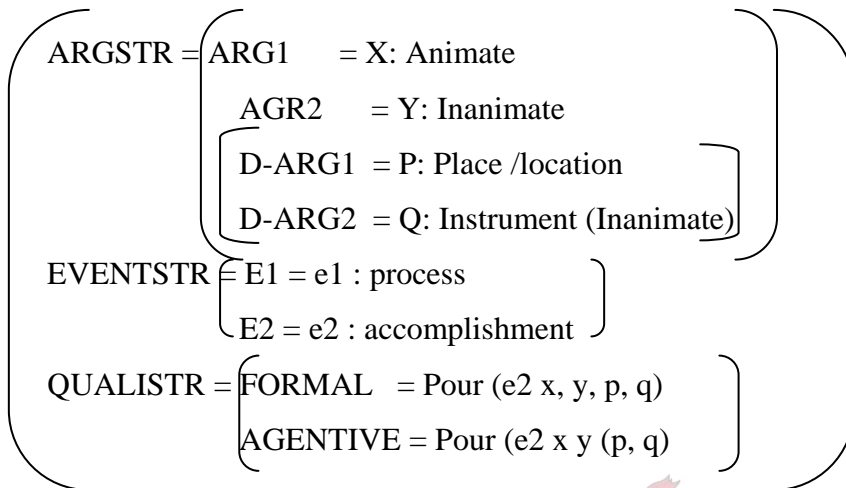
### 26. Tšholla (pour)

- a.
  - i. Mmane o tšholla molora karikaneng  
 ‘My aunt pours ash on the wagon’
  - ii. Mmane o a o tšholla molora karikaneng
- b.
  - i. Mmane o tšholla molora karikaneng e sa le bošego  
 ‘My aunt pours ash on the wagon early in the morning’
  - ii. Mmane o tšholla molora karikaneng ka iri e tee.  
 ‘My aunt pours ash on the wagon in one hour’
- c. Mmane o tšholla molora karikaneng garafo.  
 ‘My aunt pours ash on the wagon with spade’
- d. Mmane o tšholla molora karikaneng ka go nanya,  
 ‘My aunt pours ash on the wagon slowly’
- e. Molora o tšholla karikaneng ke mmane.  
 ‘The ash is poured on the wagon by my aunt’

The example sentences with the verb **tšholla** in (26a) illustrate that – **tšholla** (pour) is a monotransitive verb, i.e. a two-place predicate, with **Mmane** the subject argument bearing the thematic role of Agent, and **molora** (ash) is the object argument. The locative noun **koloing** (on the wagon), the location argument, is a default argument. The sentence in (ii) of (26a) demonstrates the co-occurrence of the object argument **molora** (ash) with its agreement prefix. The sentences with **tšholla** (pour) in (26) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **iri e tee** (in one hour) in (bii). The agentivity of the subject argument **Mmane** is supported by the

possibility to use the instrumental adverbial **ka garafo** (with a spade) in (26c) and the manner adverbial **go nanya** (slowly) in (26d) with the verb **tsholla**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (26e)

The lexical semantic representation of the verb **tsholla** reflecting structural and event structural properties displayed by the sentences in (26a) is as follows:



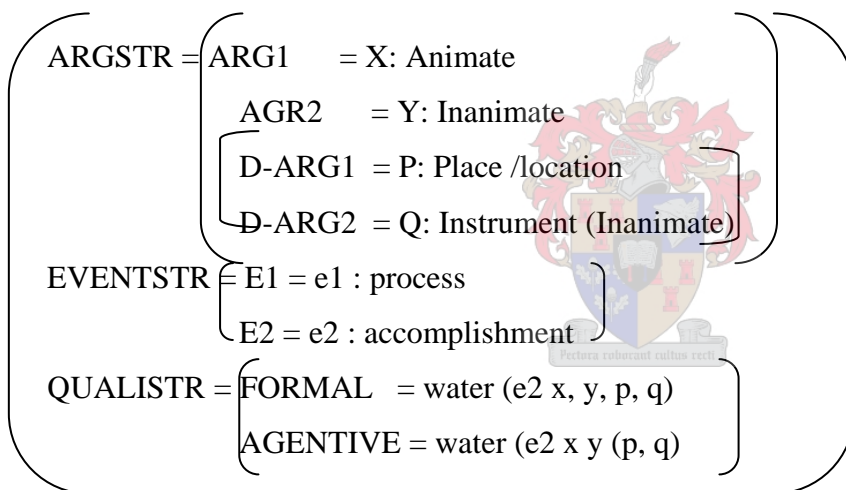
## 27. Nošetša (water)

- 
- (a) i. Sara o nošetša merogo serapaneng  
 Sara waters vegetables in the garden.  
 ii. Sara o a e nošetša merogo serapaneng.
- (b) i. Sara o nešetša merogo Serapaneng ka merithi  
 ‘Sara waters the vegetables in the garden in the after noon’  
 ii. Sara o nošetša merogo Serapaneng ka diiri tše tshelelelago.  
 ‘Sara waters vegetables in the garden for six hours’
- (c) Sara o nošetša merogo Serapaneng ka tšhetere.  
 ‘Sara waters vegetables in the garden with watering- can’
- (d) Sara o nošetša merogo serapaneng ka go phakiša.  
 ‘Sara waters vegetables in the garden quickly.’
- (e) Merogo Serapeneng e nošetšwa ke Sara.  
 ‘The vegetables in the garden are watered by Sara.’

The example sentences with the verb **nošetša** in (27a) illustrate that – **nošetša** (water) is a monotransitive verb, i.e. a two-place predicate, with **Sara** the subject argument bearing the thematic

role of Agent, and **merogo** (vegetables) is the object argument. The locative noun **serapaneng** (in the garden), the location argument, is a default argument. The sentence in (ii) of (27a) demonstrates the co-occurrence of the object argument **merogo** (vegetable) with its agreement prefix. The sentences with **nošetša** (water) in (27) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **diiri tše tshelago** (for six hours) in (bii). The agentivity of the subject argument **Sara** is supported by the possibility to use the instrumental adverbial **ka tšhetere** (with a watering-can) in (27c) and the manner adverbial **go phakiša** (quickly) in (27d) with the verb **nošetša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (27e)

The lexical semantic representation of the verb **nošetša** reflecting structural and event structural properties displayed by the sentences in (27a) is as follows:



## 28. **Betla (Carve)**

- (a) i. Mošemane o betla tlou koteng  
'The boy carves the elephant from the wood'
- ii. Mošemane o a e betla tlou koteng
- (b) i. Mošemane o betla tlou koteng bošego  
'The boy carves the elephant from the wood in the night.'
- ii. Mošemane o betla tlou koteng ka diiri tše senyane.  
'The boy carves the elephant from the wood in nine hours.'
- (c) Mošemane o betla tlou koteng ka saga.



‘The boy carves the elephant from the wood with saw.’

(d) Mošemane o betla tlou koteng ka maatla.

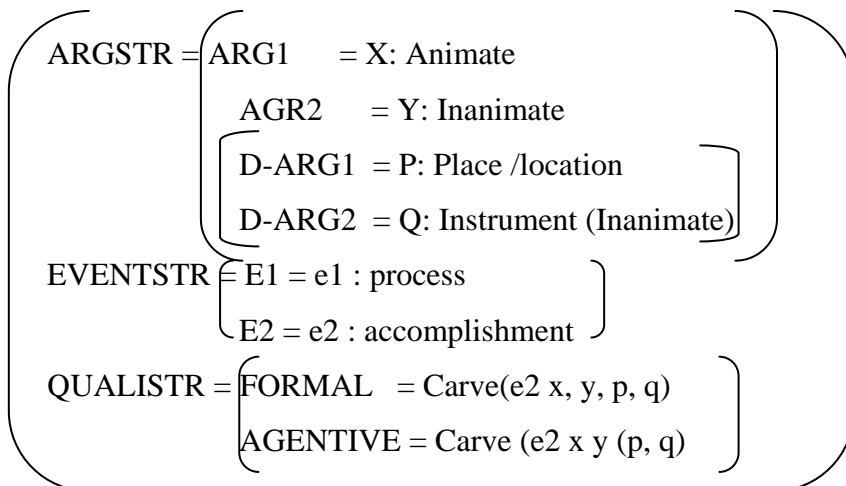
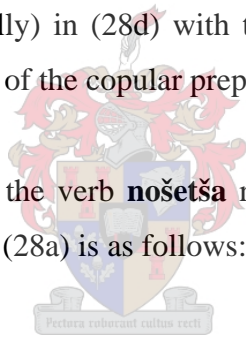
‘The boy carves the elephant from the wood powerfully.’

(e) Tlou e betlwa koteng ke mošemane.

‘The elephant is carved from the wood by the boy.’

The example sentences with the verb **betla** in (28a) illustrate that – **betla** (carve) is a monotransitive verb, i.e. a two-place predicate, with **Mošemane** the subject argument bearing the thematic role of Agent, and **tlou** (elephant) is the object argument. The locative noun **koteng** (from the wood), the location argument, is a default argument. The sentence in (ii) of (28a) demonstrates the co-occurrence of the object argument **tlou** (elephant) with its agreement prefix. The sentences with **betla** (carve) in (28) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **diiri tše tshelago** (in six hours) in (bii). The agentivity of the subject argument **Mošemane** is supported by the possibility to use the instrumental adverbial **ka tšhetere** (with a watering-can) in (28c) and the manner adverbial **ka maatla** (powerfully) in (28d) with the verb **nošetša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (28e)

The lexical semantic representation of the verb **nošetša** reflecting structural and event structural properties displayed by the sentences in (28a) is as follows:

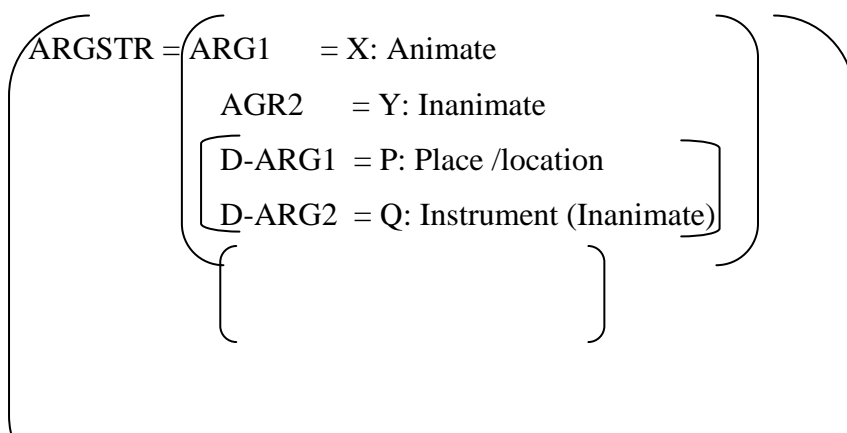


## 29. Tlema (Tie)

- (a) i. Sello o tlema pokolo maotong.  
'Sello ties a donkey on the legs.'
- ii. Sello o a e tlema pokolo maotong.
- (b) i. Sello o tlema poloko maotong bošego  
'Sello ties a donkey on the legs in the night.'
- ii. Sello o tlema poloko maotong ka iri e tee.  
'Sello ties s donkey on the legs for one hour.'
- (c) Sello o tlema pokolo maotong ka thapo.  
'Sello ties a donkey on the legs with rope.'
- (d) Sello o tlema poloko maotong ka go phakiša.  
'Sello ties a donkey on the legs with a rope.'
- (e) Pokolo e tlengwa maotong ke Sello.  
'A donkey is tied on the legs by Sello.'

The example sentences with the verb **tlema** in (29a) illustrate that – **tlema** (tie) is a monotransitive verb, i.e. a two-place predicate, with **Sello** the subject argument bearing the thematic role of Agent, and **pokolo** (donkey) as the object argument. The locative noun **maotong** (on the legs), the location argument, is a default argument. The sentence in (ii) of (29a) demonstrates the co-occurrence of the object argument **pokolo** (donkey) with its agreement prefix. The sentences with **tlema** (tie) in (29) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **diiri tše tshelago** (for six hours) in (bii). The agentivity of the subject argument **Sello** is supported by the possibility to use the instrumental adverbial **ka thapo** (with a robe) in (29c) and the manner adverbial **go phakiša** (quickly) in (29d) with the verb **tlema**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (29e)

The lexical semantic representation of the verb **tlema** reflecting structural and event structural properties displayed by the sentences in (29a) is as follows:



EVENTSTR = E1 = e1 : process

E2 = e2 : accomplishment

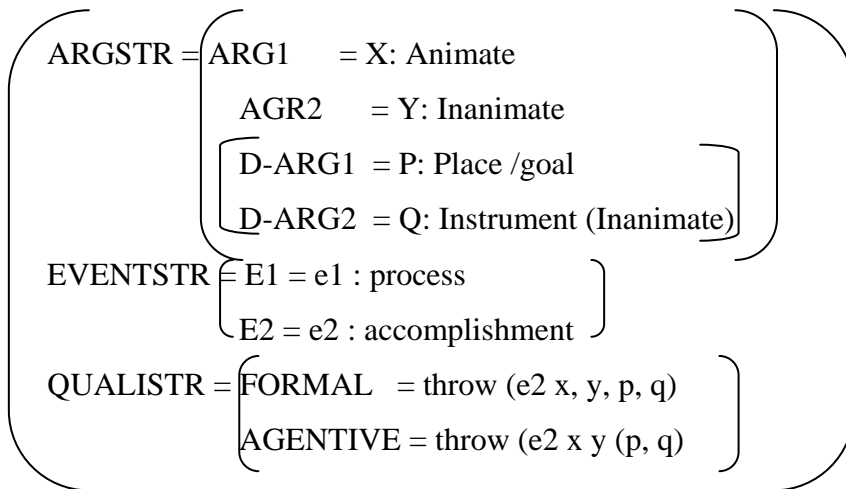
QUALISTR =  $\left( \begin{array}{l} \text{FORMAL} = \text{tie} (e2 \ x, y, p, q) \\ \text{AGENTIVE} = \text{tie} (e2 \ x \ y (p, q)) \end{array} \right)$

### 30. Betša (Throw)

- (a) i. Madinoge o betša letlapa moleteng.  
'Madiboge throws a stone into the hole.'
- ii. 'Madinoge o a le betša letlapa moleteng.'
- (b) i. Madinoge o betša letlapa moleteng mosegare.  
'Madinoge throws a stone into the hole during the day.'
- ii. Madinoge o betša letlapa moleteng ka metsotso ye mebedi.  
'Madinoge throws a stone into the hole for two minutes.'
- (c) Madinoge o betša letlapa moleteng ka direkere.  
'Madinoge throws a stone into the hole with expanders.'
- (d) Madinoge o betša letlapa molete ka go iketla.  
'Madinoge throws a stone into the hole gently.'
- (e) Letlapa le betšwa moleteng ke Madinoge.  
'A stone is thrown into the hole by Madinoge.'

The example sentences with the verb **betša** in (30a) illustrate that – **betša** (throw) is a monotransitive verb, i.e. a two-place predicate, with **Madinoge** the subject argument bearing the thematic role of Agent, and **letlapa** (stone) as the object argument. The locative noun **moleteng** (into the hole), the goal argument, is a default argument. The sentence in (ii) of (30a) demonstrates the co-occurrence of the object argument **letlapa** (stone) with its agreement prefix. The sentences with **betša** (throw) in (30) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsotso ye mebedi** (in two minutes) in (bii). The agentivity of the subject argument **Madinoge** is supported by the possibility to use the instrumental adverbial **ka direkere** (with expanders) in (30c) and the manner adverbial **go iketla** (gently) in (30d) with the verb **betša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (30e)

The lexical semantic representation of the verb **betša** reflecting structural and event structural properties displayed by the sentences in (30a) is as follows:



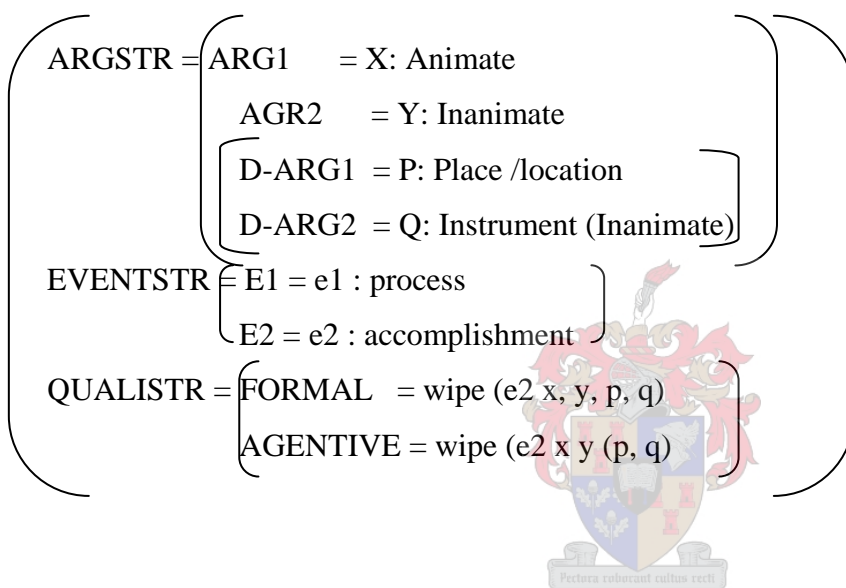
### 31. **Phumula (wipe)**

- (a) i. Patrick o phumula meetse lefasetereng.  
 ‘Patrick wipes water on the window.’  
 ii. Patrick o a a phumula meetse lefasetereng.
- (b) i. Patrick o phumula meetse lefasetereng mosegare.  
 ‘Patrick wipes water on the window during the day.’  
 ii. Patrick o phumula meetse lefasetereng ka iri e tee.  
 ‘Patrick wipes water on the window for one hour.’
- (c) Patrick o phumula meetse lefasetereng ka lešela  
 ‘Patrick wipes water on the window with a cloth.’
- (d) Patrick o phumula meetse lefasetereng ka go phakiša.  
 ‘Water is wiped on the window quickly.’
- (e) Meetse a phumulwa lefasetereng ke Patrick.’  
 ‘Water is wiped on the window by Patrick.’

The example sentences with the verb **phumula** in (31a) illustrate that – **phumula** (wipe) is a monotransitive verb, i.e. a two-place predicate, with **Patrick** the subject argument bearing the thematic role of Agent, and **lešela** (cloth) as the object argument. The locative noun **lefasetereng** (on the window), the location argument, is a default argument. The sentence in (ii) of (31a) demonstrates the co-occurrence of the object argument **lešela** (cloth) with its agreement prefix. The sentences with **phumula** (wipe) in (31) demonstrate an accomplishment event or situation type.

This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **ka metsoso ye mebedi** (for two minutes) in (bii). The agentivity of the subject argument **Patrick** is supported by the possibility to use the instrumental adverbial **ka lešela** (with a cloth) in (31c) and the manner adverbial **go phakiša** (quickly) in (31d) with the verb **phumula**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (31e)

The lexical semantic representation of the verb **phumula** reflecting structural and event structural properties displayed by the sentences in (31a) is as follows:



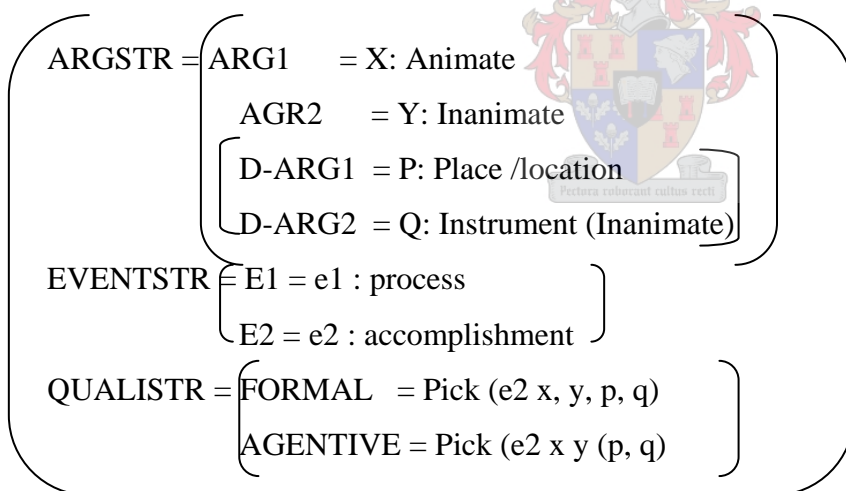
### 32. **Fula (Pick)**

- (a) i. Selina o fula dienywa mohlareng.  
'Selina picks fruits from the tree.'
- ii. Selina o a di fula dienywa mohlareng.
- (b) i. Selina o fula dienywa mohlareng e sa le bošego.  
'Selina picks the fruit from the tree in the night.'
- ii. Selina o fula dienywa mohlareng ka iri e tee.  
'Selina picks fruits on the tree in one hour.'
- (c) Selina o fula dienywa mohlareng ka phate.  
'Selina picks fruits from the tree with a wood.'
- (d) Selina o fula dienywa mohlareng ka maatla.  
'Selina picks fruits from the tree powerfully.'

- (e) Dienywa di fulwa mohlareng ke Selina.  
‘Fruits are picked from the tree by Selina.’

The example sentences with the verb **fula** in (32a) illustrate that – **fula** (pick) is a monotransitive verb, i.e. a two-place predicate, with **Selina** the subject argument bearing the thematic role of Agent, and **dienywa** (fruits) as the object argument. The locative noun **mohlareng** (on the tree), the location argument, is a default argument. The sentence in (ii) of (32a) demonstrates the co-occurrence of the object argument **dienywa** (fruits) with its agreement prefix. The sentences with **fula** (pick) in (32) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **iri e tee** (in one hour) in (bii). The agentivity of the subject argument **Selina** is supported by the possibility to use the instrumental adverbial **ka phate** (with a wood) in (32c) and the manner adverbial **ka maatla** (powerfully) in (32d) with the verb **fula**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (32e)

The lexical semantic representation of the verb **fula** reflecting structural and event structural properties displayed by the sentences in (32a) is as follows:



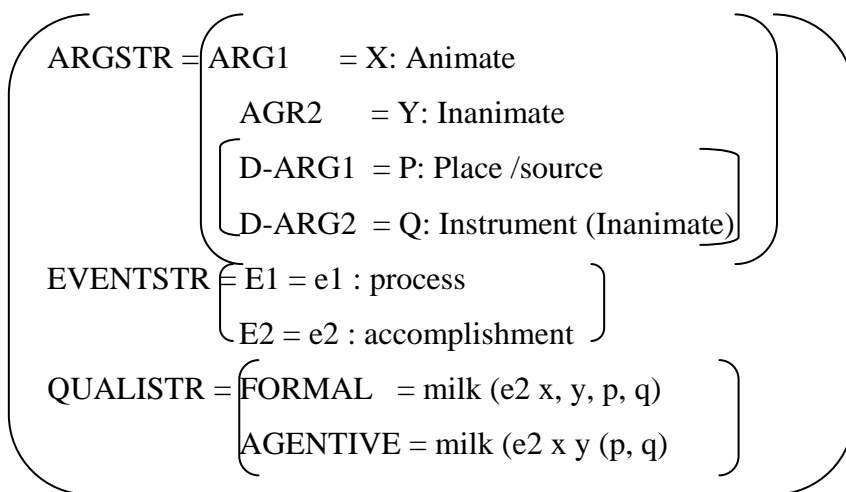
### 33. Gama (Milk)

- (a) i. Monna o gama maswi mokakeng.  
‘The man milks the milk from udder.’  
ii. Monna o a a gama maswi mokakeng.
- (b) i. Monna o gama maswi mokakeng ka masa  
‘The man milks the milk from the udder at dawn.’  
ii. Monna o gama maswi mokakeng ka seripa sa iri.

- ‘The man milks the udder for half an hour.’
- (c) Monna o gama maswi mokakeng ka motšhene.  
‘The man milks from the udder with machine.’
- (d) Monna o gama maswi mokakeng ka go nanya.  
‘The man milks from the udder slowly.’
- (e) Maswi a gangwa mokeng ke monna.  
‘The milk milked from the udder by the man.’

The example sentences with the verb **gama** in (33a) illustrate that – **gama** (milk) is a monotransitive verb, i.e. a two-place predicate, with **Monna** the subject argument bearing the thematic role of Agent, and **monna** (man) as the object argument. The locative noun **mokakeng** (on the udder), the source argument, is a default argument. The sentence in (ii) of (33a) demonstrates the co-occurrence of the object argument **maswi** (milk) with its agreement prefix. The sentences with **gama**(milk) in (33) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **seripa sa iri** (half an hour) in (bii). The agentivity of the subject argument **Monna** is supported by the possibility to use the instrumental adverbial **ka motšhene** (with machine) in (33c) and the manner adverbial **go nanya** (slowly) in (33d) with the verb **gama**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (33e)

The lexical semantic representation of the verb **gama** reflecting structural and event structural properties displayed by the sentences in (33a) is as follows:



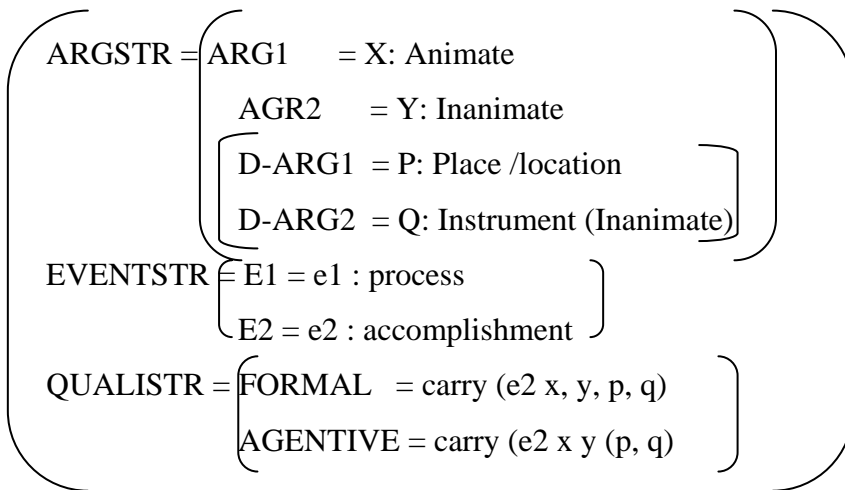
### 34. Rwala (Carry)

- (a) i. Mosadi o rwala meetse  
‘The woman carries water on the head.’
- ii. Mosadi o a a rwala meetse hloogong.
- (b) i. Mosadi o rwala meetse hloogong e sa le bošego.  
‘The woman carries water on the head in the morning.’
- ii. Mosadi o rwala meetse hloogong ka iri e tee.  
‘The woman carries water on the head for one hour.’
- (c) Mosadi o rwala meetse hloogong ka tshipi.  
‘The woman carries water on the head with a tin.’
- (d) Mosadi o rwala meetse hloogong ka go phakisa.  
‘The woman carries water on the head quickly.’
- (e) Meetse a rwalwa hloogong ke mosadi.  
‘The water is carried on the head by the woman.’

The example sentences with the verb **rwala** in (34a) illustrate that – **rwala** (carry) is a monotransitive verb, i.e. a two-place predicate, with **Mosadi** the subject argument bearing the thematic role of Agent, and **meetse** (water) as the object argument. The locative noun **hloogong** (on the head), the location argument, is a default argument. The sentence in (ii) of (34a) demonstrates the co-occurrence of the object argument **meetse** (water) with its agreement prefix. The sentences with **rwala** (water) in (34) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Mosadi** is supported by the possibility to use the instrumental adverbial **ka tshipi** (with horns) in (34c) and the manner adverbial **go phakisa** (quickly) in (34d) with the verb **rwala**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (34e)

The lexical semantic representation of the verb **rwala** reflecting structural and event structural properties displayed by the sentences in (34a) is follows:





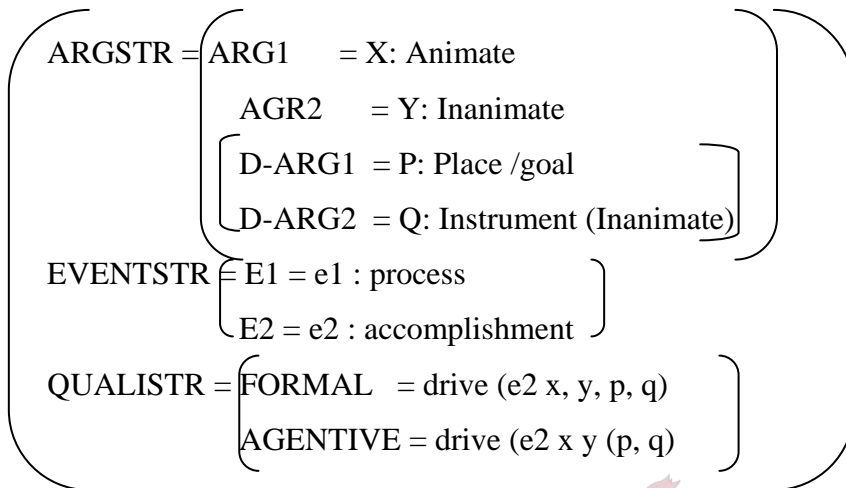
### 35. Gapa (Drive)

- (a) i. Lina o gapa dikgomo lešokeng mošegare.  
 ‘Lina drives the cattle to the veld.’  
 ii. Lina o a di gapa dikgomo lešokeng.
- (b) i. Lina o gapa dikgomo lešokeng ka iri e tee.  
 ‘Lina drives the cattle to the veld the day.’  
 ii. Lina drives the cattle in the veld in one hour.’
- (c) Lina o gapa dikgomo lešakeng ka sefepi.  
 ‘Lina drives the cattle to the veld with a whip.’
- (d) Lina o gapa dikgomo lešokeng ka khutšo.  
 ‘Lina drives the cattle to the veld peacefully.’
- (e) Dikgomo di gapša lešokeng ke Lina.  
 ‘The cattle are driven to the veld by Lina.’


The example sentences with the verb **gapa** in (35a) illustrate that – **gapa** (drive) is a monotransitive verb, i.e. a two-place predicate, with **Lina** the subject argument bearing the thematic role of Agent, and **dikgomo** (cattle) is the object argument. The locative noun **lešokeng** (in the veld), the location / goal argument, is a default argument. The sentence in (ii) of (35a) demonstrates the co-occurrence of the object argument **dikgomo** (cattle) with its agreement prefix. The sentences with **gapa** (drive) in (35) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Lina** is supported by the possibility to use the instrumental adverbial **ka sefepi** (with a whip) in (35c) and the manner adverbial **ka khutšo**

(peacefully) in (35d) with the verb **gapa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (35e)

The lexical semantic representation of the verb **gapa** reflecting structural and event structural properties displayed by the sentences in (35a) is as follows:



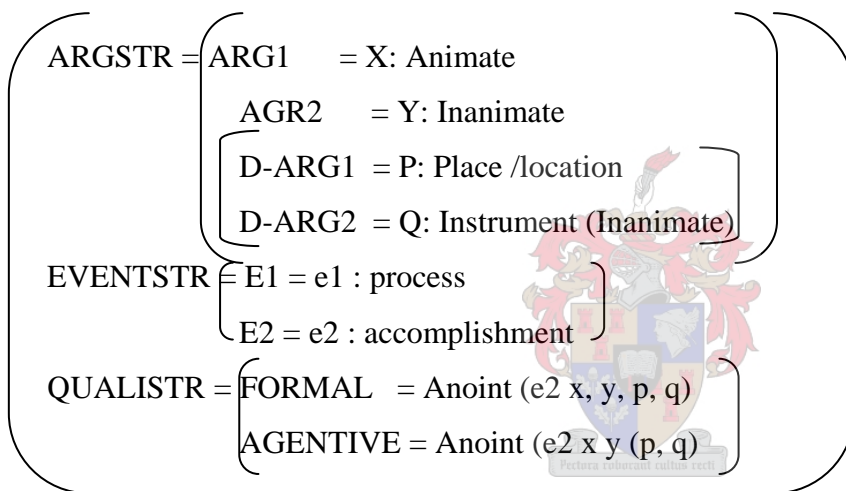
### 36. Tlotša (Anoint)

- 
- (a) i. Peter o tlotša sehlare letlalong  
 ‘Peter puts ointment on the skin.’  
 ii. Peter o a se hlotša sehlare letlalong.
- (b) i. Peter o tlotša sehlare letlalong bošego  
 ‘Peter puts ointment on the skin in the night.’  
 ii. Peter o tlotša sehlare letlalong ka iri e tee.  
 ‘Peter puts ointment on the skin for one hour.’
- (c) Peter o tlotša sehlare letlalong ka lešela.  
 ‘Peter puts ointment on the skin with a cloth.’
- (d) Peter o tlotša sehlare letlalong ka kgotlelelo.  
 ‘Peter puts ointment on the skin patiently.’
- (e) Sehlare se tlotšwa letlalong ke Peter.  
 ‘The ointment is put on the skin by Peter.’

The example sentences with the verb **tlotša** in (36a) illustrate that – **tlotša** (anoint) is a monotransitive verb, i.e. a two-place predicate, with **Peter** the subject argument bearing the thematic role of Agent, and **sehlare** (ointment) as the object argument. The locative noun **letlalong**

(on the skin), the location argument, is a default argument. The sentence in (ii) of (36a) demonstrates the co-occurrence of the object argument **sehlare** (ointment) with its agreement prefix. The sentences with **tlotša** (anoint) in (36) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Peter** is supported by the possibility to use the instrumental adverbial **ka lešela** (with a cloth) in (36c) and the manner adverbial **ka kgotlelelo** (patiently) in (36d) with the verb **tlotša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (36e)

The lexical semantic representation of the verb **tlotša** reflecting structural and event structural properties displayed by the sentences in (36a) is as follows:



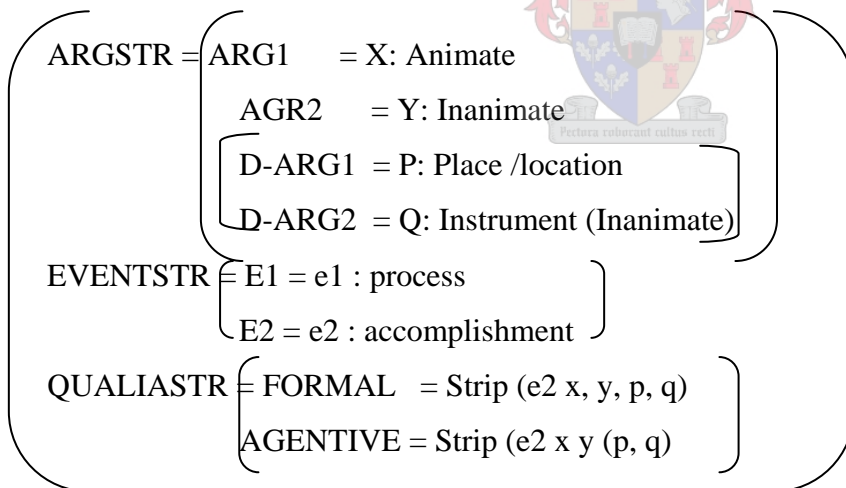
### 37. Kgokgoša (Strip)

- (a) i. Mošemane o kgokgoša lehea mokgokgothing.  
 ‘The boy strips the maize on the cob.’  
 ii. Mošemane o a le kgokgoša lehea mokgokgothing.
- (b) Mošemane o kgokgoša lehea mokgokgothing bošego.  
 ‘The boy strips the maize on the cob for the night.’  
 ii. Mošemane o kgokgoša lehea mokgokgothing ka metsotso ye mehlano.  
 ‘The boy strip the maize on the cob for five minutes.’
- (c) Mošemane o kgokgoša lehea mokgokgothing ka sekhumelo.  
 ‘The boy strips maize on the cob with a rid.’
- (d) Mošemane o kgokgoša lehea mokgokgothing ka maatla.  
 ‘The boy strips maize on the cob power fully.’

- (e) Lehea le kgokgošwa mokgokgothing ke mošemane.  
 ‘The maize is stripped on the cob by the boy.’

The example sentences with the verb **kgokgoša** in (37a) illustrate that – **kgokgoša** (strip) is a monotransitive verb, i.e. a two-place predicate, with **Mošemane** the subject argument bearing the thematic role of Agent, and **lehea** (maize) is the object argument. The locative noun **mokgokgothing** (on the cob), the location argument, is a default argument. The sentence in (ii) of (37a) demonstrates the co-occurrence of the object argument **lehea** (maize) with its agreement prefix. The sentences with **kgokgoša** (strip) in (37) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye mehlano** (for five minutes) in (bii). The agentivity of the subject argument **Mošemane** is supported by the possibility to use the instrumental adverbial **ka sekhurumelo** (with a lid) in (37c) and the manner adverbial **ka maatla** (powerfully) in (37d) with the verb **kgokgoša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (37e)

The lexical semantic representation of the verb **kgokgoša** reflecting structural and event structural properties displayed by the sentences in (37a) is as follows:



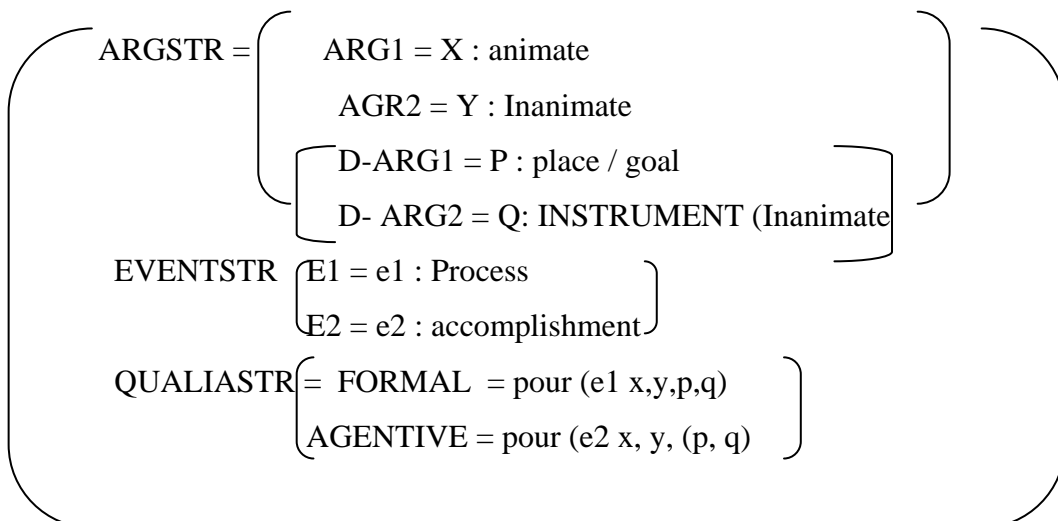
### 38. Tšhela (Pour)

- a. i. Mootledi o tšhela oli tankeng .  
 ‘The driver pours oil into the tank’.  
 ii. Mootledi o a e tšhela oli tankeng.
- b. i. Mootledi o tšhela oli tankeng ka masa.

- ‘The driver pours oil into the tank at dawn’.
- ii. Mootledi o tšhela oli tankeng ka iri e tee.  
‘The driver pours oil into the tank for one hour’.
- c. Mootledi o tšhela oli tankeng ka lebotlelo.  
‘The driver pours oil into the tank with bottle’.
- d. Mootledi o tšhela oli tankeng ka tlhokomelo.  
‘The driver pours oil into the tank carefully’.
- e. Oil e tšhelwa tankeng ke mootledi.  
‘The oil is poured into the tank by the driver’.

The example sentences with the verb **tšhela** in (38a) illustrate that – **tšhela** (pour) is a monotransitive verb, i.e. a two-place predicate, with **Mootledi** the subject argument bearing the thematic role of Agent, and **oli** (oil) as the object argument. The locative noun **tankeng** (into the tank), the goal argument, is a default argument. The sentence in (ii) of (38a) demonstrates the co-occurrence of the object argument **oli** (oil) with its agreement prefix. The sentences with **tšhela** (pour) in (38) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Mootledi** is supported by the possibility to use the instrumental adverbial **ka lebotlelo** (with a bottle) in (38c) and the manner adverbial **ka hlokomelo** (carefully) in (38d) with the verb **tšhela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (38e)

The lexical semantic representation of the verb **tšhela** reflecting structural and event structural properties displayed by the sentences in (38a) is as follows:

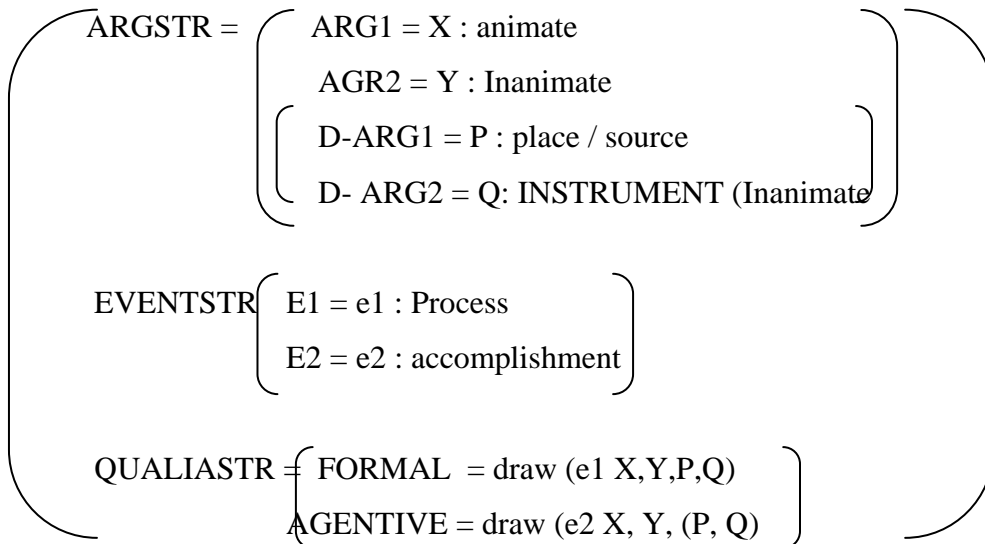


### 39. Ga (Draw)

- a. i. Basadi ba ga meetse sedibeng.  
‘The woman draw water from the fountain’.
- ii. Basadi ba a a ga meetse sedibeng.
- b. i. Basadi ba ga meetse sedibeng e sa le bošego.  
‘The woman draw water from the fountain in the morning’.
- ii. Basadi ba ga meetse sedibeng ka iri e tee.  
‘The woman draw water from the fountain in one hour’.
- c. Basadi ba ga meetse sedibeng ka sego.  
‘The women draw water from the fountatain with a calabash’.
- d. Basadi ga ga meetse sedibeng ka go phakiša.  
‘The women draw water from the fountain quickly’.
- e. Meetse a gewa sedibeng ke basadi.  
‘The water is drawn from the fountain by the womam’.

The example sentences with the verb **ga** in (39a) illustrate that – **ga** (draw) is a monotransitive verb, i.e. a two-place predicate, with **Basadi** the subject argument bearing the thematic role of Agent, and **meetse** (water) as the object argument. The locative noun **sedibeng** (in the fountain), the source argument, is a default argument. The sentence in (ii) of (39a) demonstrates the co-occurrence of the object argument **meetse** (water) with its agreement prefix. The sentences with **ga** (draw) in (39) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Basadi** is supported by the possibility to use the instrumental adverbial **ka sego** (with a calabash) in (39c) and the manner adverbial **go phakiša** (quickly) in (39d) with the verb **ga**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (39e)

The lexical semantic representation of the verb **ga** reflecting structural and event structural properties displayed by the sentences in (39a) is as follows:



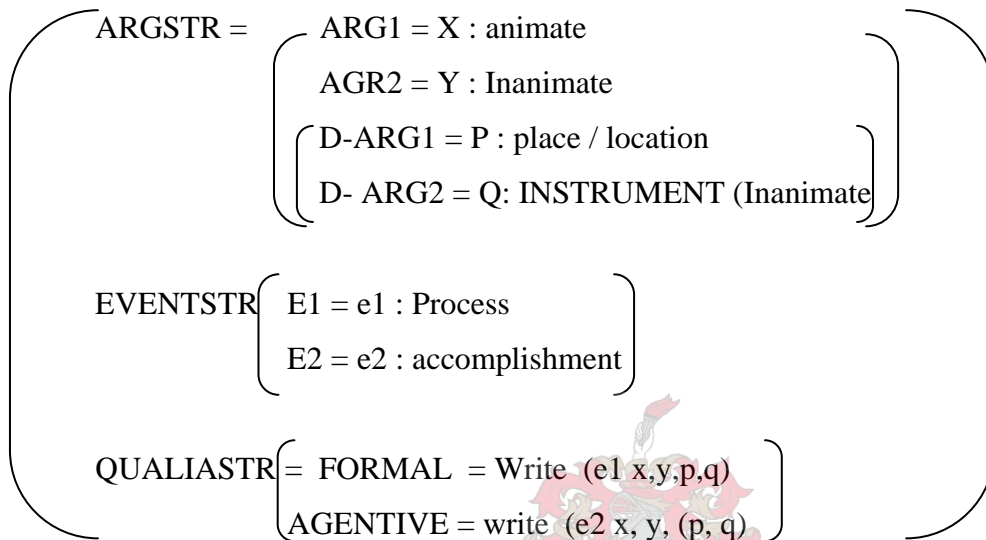
#### 40. Ngwala (write)

- a.
  - i. Sara o ngwala lengwalo pampiring  
'Sara writes a letter on the paper'.
  - ii. Sara o a le ngwala lengwalo pampiring.
- b.
  - i. Sara o ngwala lengwalo pampiring bošego gare.  
'Sara writes a letter on the paper in the midnight'.
  - ii. Sara o ngwala lengwalo pampiring ka metsotso ye meraro.  
'Sara writes a letter on the paper for three minutes'.
- c. Sara o ngwala lengwalo pampiring ka pene.  
'Sara writes a letter on the paper with a pen'.
- d. Sara o ngwala lengwalo pampiring ka mafolofolo.  
'Sara writes a letter on the paper swiftly'.
- e. Lengwalo le ngwalwa pampiring ke Sara.  
'The letter is written on the paper by Sara'.

The example sentences with the verb **ngwala** in (40a) illustrate that – **ngwala (write)** is a monotransitive verb, i.e. a two-place predicate, with **Sara** the subject argument bearing the thematic role of Agent, and **lengwalo** (letter) as the object argument. The locative noun **pampiring** (on the paper), the location argument, is a default argument. The sentence in (ii) of (40a) demonstrates the co-occurrence of the object argument **lengwalo** (letter) with its agreement prefix. The sentences with **ngwala** (write) in (40) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošegogare** (in the midnight) in (bi) and **metsotso ye meraro** (in three minutes) in (bii). The agentivity of the subject argument

**Sara** is supported by the possibility to use the instrumental adverbial **ka pene** (with a pen) in (40c) and the manner adverbial **ka mafolofolo** (swiftly) in (40d) with the verb **ngwala**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (40e)

The lexical semantic representation of the verb **ngwala** reflecting structural and event structural properties displayed by the sentences in (40a) is as follows:



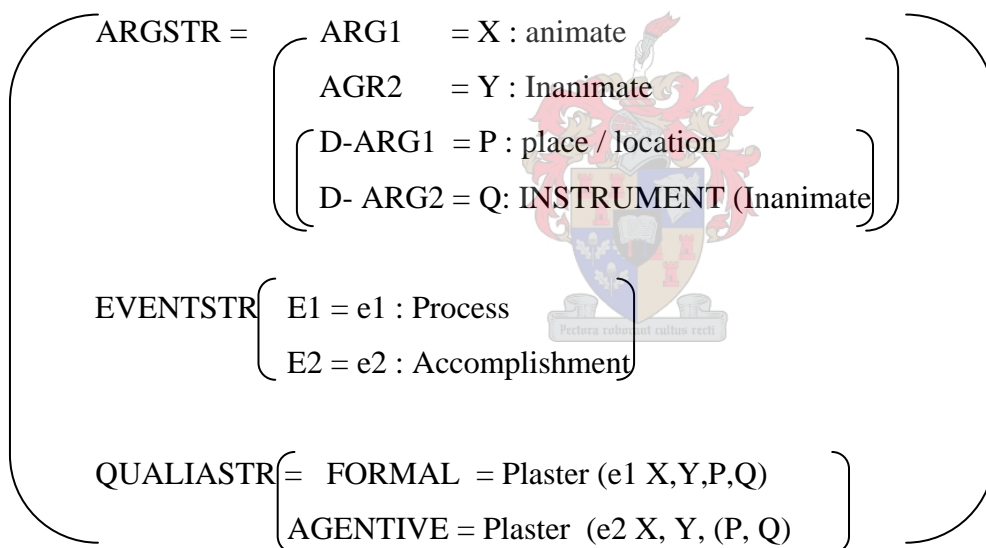
#### **41. Ritela (Plaster)**

- a.
  - i. Rabokale o ritela taka lebatong  
'Rabokale plasters mortar on the wall.'
  - ii. Rabokale o a e ritela taka lebatong
- b.
  - i. Rabokale o ritela taka lebotong mosegare.  
'Rabokale plasters mortar on the wall during the day.'
  - ii. Rabokale o ritela taka lebotong ka diiri tše hlano.  
'Rabokale plasters mortar on the wall for five hours.'
- c. Rabokale o ritela taka lebatong ka torofolo.  
'Rabokale platsters the mortar on the wall with a floater'
- d. Rabokale o ritela taka lebatong ka go nanya.  
'Rabokale plasters the mortar on the wall slowly'
- e. Taka e ritelwa lebotong ke Rabokale.  
'The mortar is plastered on the wall by Rabokale.'



The example sentences with the verb **ritela** in (41a) illustrate that – **ritela** (plaster) is a monotransitive verb, i.e. a two-place predicate, with **Rabokale** the subject argument bearing the thematic role of Agent, and **taka** (mortar) as the object argument. The locative noun **lebotong** (on the wall), the location argument, is a default argument. The sentence in (ii) of (41a) demonstrates the co-occurrence of the object argument **taka** (mortar) with its agreement prefix. The sentences with **ritela** (plaster) in (41) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **diiri tše hlano** (in five minutes) in (bii). The agentivity of the subject argument **Rabokale** is supported by the possibility to use the instrumental adverbial **ka torofolo** (with a floater) in (41c) and the manner adverbial **go nanya** (slowly) in (41d) with the verb **ritela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (41e)

The lexical semantic representation of the verb **ritela** reflecting structural and event structural properties displayed by the sentences in (41a) is as follows:



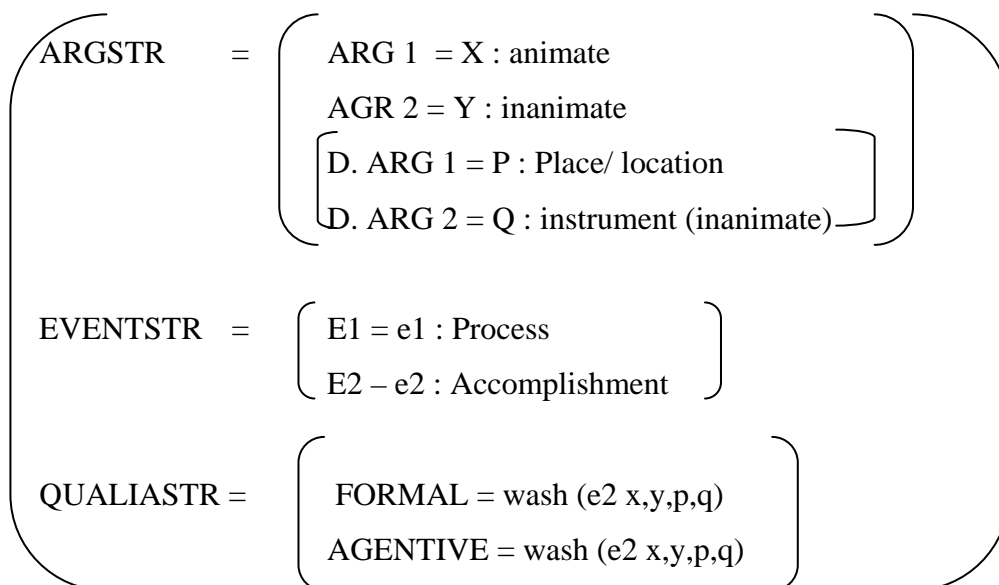
#### 42. Hlatswa (wash)

- a. i. Ramathetše o hlatswa lerole lefasetereng.  
'Ramathetše washes dust on the window'
- ii. Ramathetše o a le hlatswa lerole lefasetereng.
- b. i. Ramathetše o hlatswa lerole lefasetereng e sa le boshego.  
'Ramathetše washes dust on the wall early in the morning.'
- ii. Ramathetše o hlatswa lefasetere ka iri e tee.  
'Ramathetše washes dust on the window for one hour.'

- c. Ramathetše o hlatswa lerole lefasetereng ka lešela.  
'Ramathetše washes dust on the window with a cloth.'
- d. Ramathetše o hlatswa hlatswa lerole lefasetereng ka go phakisha.  
'Ramathetše washes dust on the window quickly.'
- e. Lerole le hlatswiwa lefasetereng ke Ramathetše.  
'Dust is washed on the window by Ramathetše.'

The example sentences with the verb **hlatswa** in (42a) illustrate that – **hlatswa** (wash) is a monotransitive verb, i.e. a two-place predicate, with **Ramathetše** the subject argument bearing the thematic role of Agent, and **lerole** (dust) as the object argument. The locative noun **lefasetereng** (on the window), the location argument, is a default argument. The sentence in (ii) of (42a) demonstrates the co-occurrence of the object argument **lerole** (dust) with its agreement prefix. The sentences with **hlatswa** (wash) in (42) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka masa** (early in the morning) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Ramathetše** is supported by the possibility to use the instrumental adverbial **ka lešela** (with a cloth) in (42c) and the manner adverbial **go phakisha** (quickly) in (42d) with the verb **hlatswa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (42e)

The lexical semantic representation of the verb **hlatswa** reflecting structural and event structural properties displayed by the sentences in (42a) is as follows:

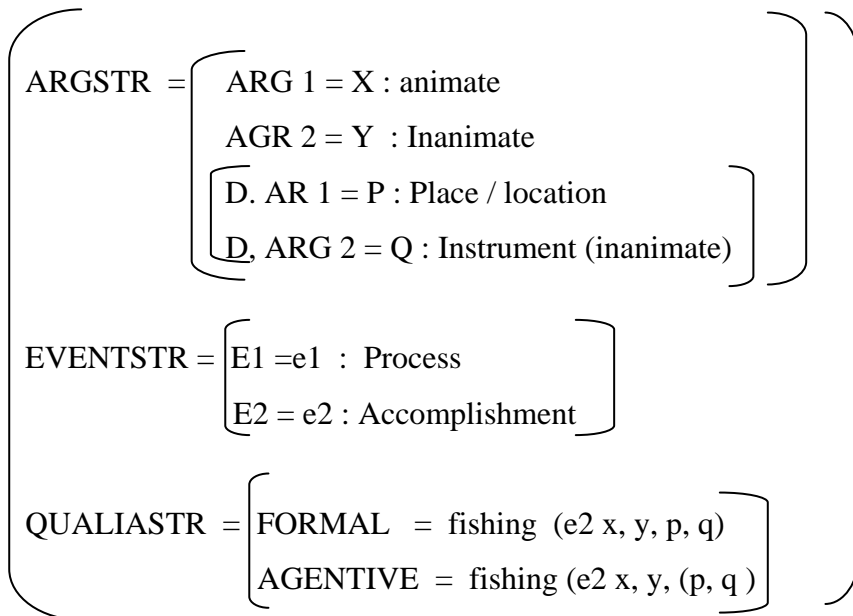


### 43. Thea (Fish)

- a. i. Anna o thea dihlapi meetseng  
'Anna is fishing in the water'.  
ii. Anna o a di thea dihlapi meetseng.
- b. i. Anna o thea dihlapi meetseng ka masa.  
'Anna is fishing in the water at dawn'.  
ii. Anna o thea dihlapi meetseng ka metsotso ye masome – nne.  
'Anna is fishing in the water for forty minutes'.
- c. Anna o thea dihlapi meetseng ka sefo.  
'Anna is fishing in the water with a sieve'.
- d. Anna o thea dihlapi meetseng ka khutšo.  
'Anna is fishing in the water peacefully'.
- e. Dihlapi di thewa meetseng ke Anna.  
'The fishes are fished in the water by Anna'.

The example sentences with the verb **thea** in (43a) illustrate that – **thea** (fish) is a monotransitive verb, i.e. a two-place predicate, with **Anna** the subject argument bearing the thematic role of Agent, and **dihlapi** (fishes) as the object argument. The locative noun **meetseng** (in the river), the location argument, is a default argument. The sentence in (ii) of (43a) demonstrates the co-occurrence of the object argument **dihlapi** (fishes) with its agreement prefix. The sentences with **thea** (fishing) in (i) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **metsotso ye masome-nne** (for forty minutes) in (bii). The agentivity of the subject argument **Anna** is supported by the possibility to use the instrumental adverbial **ka sefo** (with sieve) in (43c) and the manner adverbial **ka khutšo** (peacefully) in (43d) with the verb **thea**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (43e)

The lexical semantic representation of the verb **thea** reflecting structural and event structural properties displayed by the sentences in (43a) is as follows:



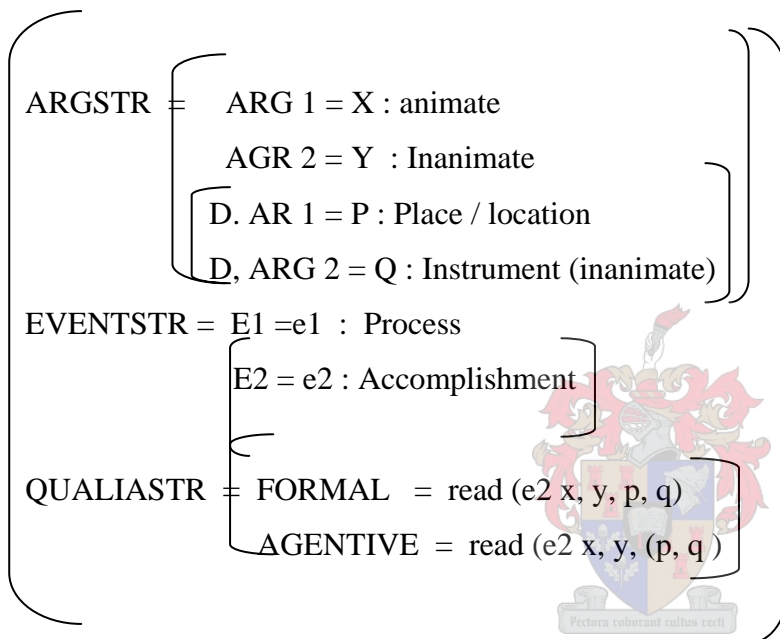
#### 44. Bala (Read)

- a. i. Morutiši o bala dipuku bokgobapukung.  
‘The teacher reads the books in the library’.
- ii. Morutiši o a di bala dipuku bokgobapukung.
- b. i. Morutiši o bala dipuku bokgobapukung bošego.  
‘The teacher reads the books in the library in the night’.
- ii. Morutiši o bala dipuku bokgobapukung ka diiri tše pedi.  
‘The teacher reads the books in the library for two hours’.
- c. Morutiši o bala dipuku bokgobapukung ka digodiša – mantšu.  
‘The teacher reads the books in the library with a magnifying glass’.
- d. Morutiši o bala dipuku bokgobapukung ka tlhokomelo.  
‘The teacher reads the books in the library carefully’.
- e. Dipuku di balwa bokgobapukung ke morutiši.  
‘The books are read in the library by the teacher’.

The example sentences with the verb **bala** in (44a) illustrate that – **bala** (read) is a monotransitive verb, i.e. a two-place predicate, with **Morutiši** the subject argument bearing the thematic role of Agent, and **dipuku** (books) as the object argument. The locative noun **bokgobapukung** (library), the location argument, is a default argument. The sentence in (ii) of (44a) demonstrates the co-occurrence of the object argument **dipuku** (books) with its agreement prefix. The sentences with **bala** (read) in (44) demonstrate an accomplishment event or situation type. This is supported by the

temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **diiri tše pedi** (for two hours) in (bii). The agentivity of the subject argument **Morutiši** is supported by the possibility to use the instrumental adverbial **ka digodiša mantšu** (with the magnifying classes) in (44c) and the manner adverbial **ka tlhokomelo** (carefully) in (44d) with the verb **bala**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (44e)

The lexical semantic representation of the verb **bala** reflecting structural and event structural properties displayed by the sentences in (44a) is as follows:



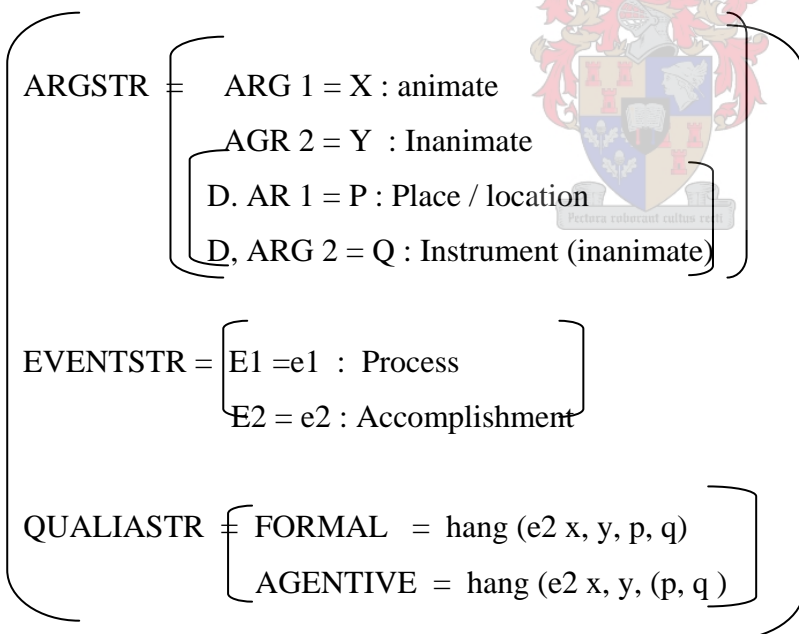
#### 45. Anega (Hang)

- a.
  - i. Leseilane o anega dikobo motatong.  
'Leseilane hangs the clothes on the washing lane'.
  - ii. Leseilane o a di anega dikobo motatong.
- b.
  - i. Leseilane o anega dikobo motatong e sale bošego.  
'Leseilane hangs the clothes on the washing lane early in the morning'.
  - ii. Leseilane o anega dikobo motatong ka iri e tee.  
'Leseilane hangs the clothes on the washing lane for one hour'.
- c. Leseilane o anega dikobo motatong ka diphekisi.  
'Leseilane hangs the clothes on the wahing lane with pegs'.
- d. Leseilane o anega dikobo motatong ka go nanya.  
'Leseilane hangs the clothes on the washing lane slowly'.

- e. Dikobo di anegwa motatong ke Leseilane.  
 ‘The clothes are hanged on the washing lane by Leseilane’.

The example sentences with the verb **anega** in (45a) illustrate that – **anega** (hang) is a monotransitive verb, i.e. a two-place predicate, with **Leseilane** the subject argument bearing the thematic role of Agent, and **dikobo** (clothes) as the object argument. The locative noun **motatong** (on the washing lane), the location argument, is a default argument. The sentence in (ii) of (45a) demonstrates the co-occurrence of the object argument **dikobo** (clothes) with its agreement prefix. The sentences with **anega** (hang) in (45) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **esa le bošego** (in the morning) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Leseilane** is supported by the possibility to use the instrumental adverbial **ka diphekisi** (with pegs) in (45c) and the manner adverbial **go nanya** (slowly) in (45d) with the verb **anega**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (45e)

The lexical semantic representation of the verb **anega** reflecting structural and event structural properties displayed by the sentences in (45a) is as follows:



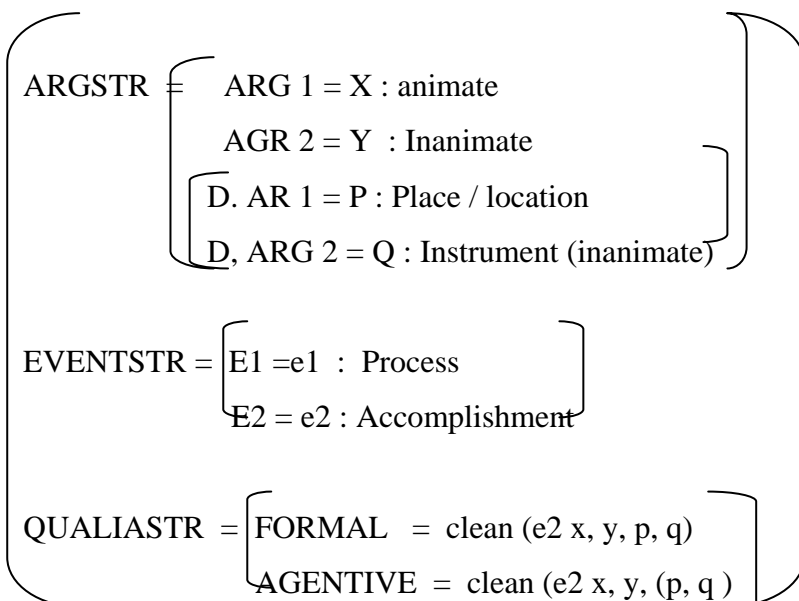
#### **46. Hlwekiša (Clean)**

- a. i. Rabokale o hlwekiša lebato kamoreng.  
 ‘Rabokale cleans the floor in the room’.  
 ii. Rabokale o a le hlwekiša lebato kamoring.
- b. i. Rabokale o hlwekiša lebato kamoreng bošego.

- ‘Rabokale cleans the floor in the room in the night’.
- ii. Rabokale o hlwekiša lebato kamoreng ka iri e tee.  
‘Rabokale cleans the floor in the room for one hour’.
- c. Rabokale o hlwekiša lebato kamoreng ka poraša.  
‘Rabokale cleans the floor in the room with a scrubbing – brush’.
- d. Rabokale o hlwekiša lebato kamoreng ka tlhokomelo.  
‘Rabokale cleans the floor in the room carefully’.
- e. Lebato le hlwekišwa kamoreng ke Rabokale.  
‘The floor is cleaned in the room by Rabokale.’

The example sentences with the verb **hlwekiša** in (46a) illustrate that – **hlwekiša** (clean) is a monotransitive verb, i.e. a two-place predicate, with **Rabokale** the subject argument bearing the thematic role of Agent, and **lebato** (floor) as the object argument. The locative noun **kamoreng** (in the room), the location argument, is a default argument. The sentence in (ii) of (46a) demonstrates the co-occurrence of the object argument **lebato** (floor) with its agreement prefix. The sentences with **hlwekiša** (clean) in (46) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **iri e tee** (in one hour) in (bii). The agentivity of the subject argument **Rabokale** is supported by the possibility to use the instrumental adverbial **ka poraše** (with a scrubbing brush) in (46c) and the manner adverbial **ka hlhokomelo** (carefully) in (46d) with the verb **hlwekiša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (46e)

The lexical semantic representation of the verb **hlwekiša** reflecting structural and event structural properties displayed by the sentences in (46a) is as follows:



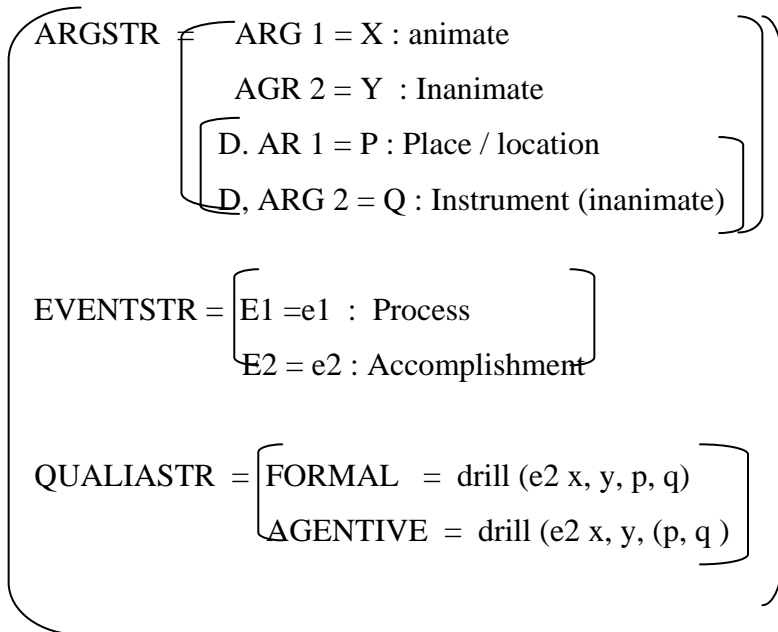
#### **47. Thula (Drill)**

- a. i. Lesetša o thula lešoba lepolankeng.  
‘Lesetša drills the hole in the plank’.
- ii. Lesetša o a le thula lešoba lepolankeng.
- b. i. Lesetša o thula lešoba lepolankeng ka merithi.  
‘Lesetša drills the hole in the plank in the afternoon’.
- ii. Lesetša o thula lešoba lepolankeng ka diiri tše pedi.  
‘Lesetša drills the hole in the plank for two hours’.
- c. Lesetša o thula lešoba lepolankeng ka sepikiri.  
‘Lesetša drills the hole in the plank with a nail’.
- d. Lesetša o thula lešoba lepolanken ka tlhokomelo.  
‘Lesetša drills the hole in the plank carefully’.
- e. Lešoba le thulwa lepolankeng ke Lesetša.  
‘A hole is drilled in the plank by Lesetša’.

The example sentences with the verb **thula** in (47a) illustrate that – **thula** (drill) is a monotransitive verb, i.e. a two-place predicate, with **Lesetša** the subject argument bearing the thematic role of Agent, and **lebato** (floor) as the object argument. The locative noun **kamoreng** (in the room), the location argument, is a default argument. The sentence in (ii) of (47a) demonstrates the co-occurrence of the object argument **lebato** (floor) with its agreement prefix. The sentences with **thula** (drill) in (47) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **diiri tše pedi** (in two hours) in (bii). The agentivity of the subject argument **Lesetša** is supported by the possibility to use the instrumental adverbial **ka sepikiri** (with a nail) in (47c) and the manner adverbial **ka tlhokomelo** (carefully) in (47d) with the verb **thula**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (47e)

The lexical semantic representation of the verb **thula** reflecting structural and event structural properties displayed by the sentences in (47a) is as follows:





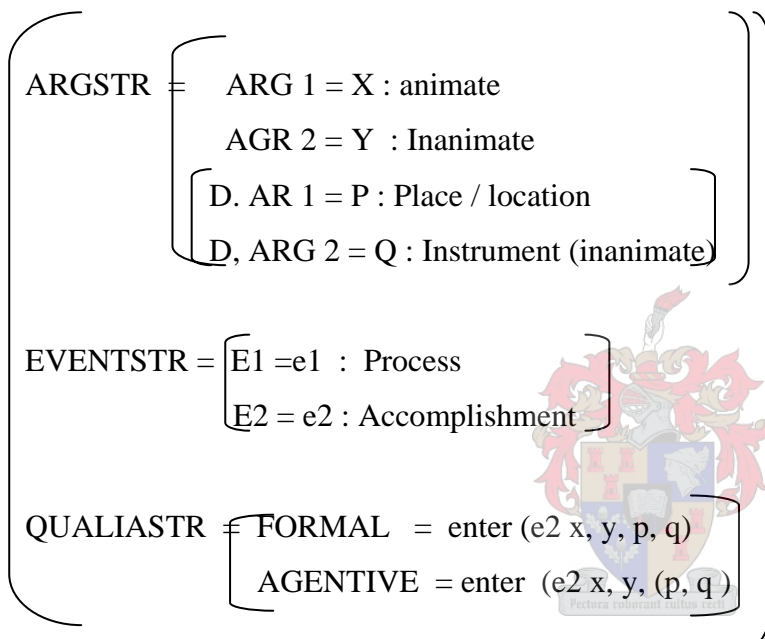
#### 48. Tsenya (Enter)

- a. i. Mosadi o tsenya mangwalo pukung  
'The woman enters the information in the book.
- ii. Mosadi o a o tsenya molaetša pukung.
- b. i. Mosadi o tsenya molaetša pukung pele letšatši le sobela.  
'The woman enters the information in the book before the sun set'.
- ii. Mosadi o tsenya molaetša pukung ka diiri tše hlano.  
'The woman enters the information in the book for five hours'.
- c. Mosadi o tsenya molaetša pukung ka khomphutha.  
'The woman enters the information in the book with a computer'.
- d. Mosadi o tsenya molaetša pukung ka tlhokomelo.  
'The woman enters the information in the book carefully'.
- e. Molaetša o tsenywa pukung ke Mosadi.  
'The information is entered in the book by the woman'.

The example sentences with the verb **tsenya** in (48a) illustrate that – **tsenya** (enter) is a monotransitive verb, i.e. a two-place predicate, with **Mosadi** the subject argument bearing the thematic role of Agent, and **molaetša** (information) as the object argument. The locative noun **pukung** (in the book), the source argument, is a default argument. The sentence in (ii) of (48a) demonstrates the co-occurrence of the object argument **molaetša** (information) with its agreement prefix. The sentences with **tsenya** (enter) in (48) demonstrate an accomplishment event or situation

type. This is supported by the temporal durative adverbials in the sentence in (b): **pele letšatši le sobela** (before the sunset) in (bi) and **diiri tše hlano** (for five minutes) in (bii). The agentivity of the subject argument **Mosadi** is supported by the possibility to use the instrumental adverbial **ka khomphutha** (with a computer) in (48c) and the manner adverbial **go tlhokomelo** (carefully) in (48d) with the verb **tsenya**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (48e)

The lexical semantic representation of the verb **tsenya** reflecting structural and event structural properties displayed by the sentences in (48a) is as follows:



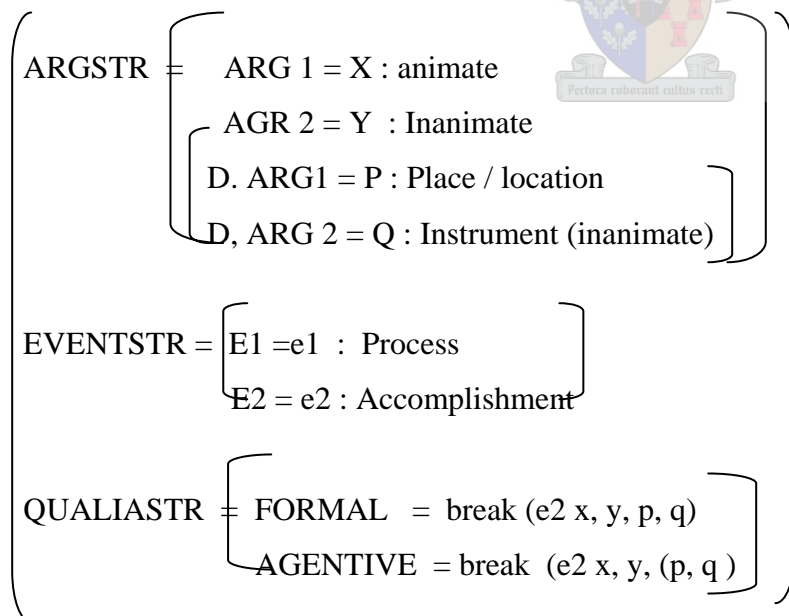
#### 49. Pšhatla (Break)

- a.
  - i. Lucas o pšhatla lerapo letlapeng.  
'Lucas breaks the bone on the stone.'
  - ii. Lucas o a le pšhatla lerapo letlapeng.
- b.
  - i. Lucas o a pšhatla lerapo letlapeng ka meriti.  
'Lucas breaks the bone on the stone in the afternoon.'
  - ii. Lucas o pšhatla lerapo ka metsotso ye mehlano.  
'Lucas breaks the bone on the stone for five minutes.'
- c. Lucas o pšhatla lerapo letlapeng ka gamola.  
'Lucas breaks the bone on the stone with a hammer.'
- d. Lucas o pšhatla lerapo letlapeng ka tlhokomelo.  
'Lucas breaks the bone on the stone carefully.'

- e. Lerapo le pšhatlwa letlapeng ke Lucas.  
 ‘The bone is broken on the stone by Lucas.’

The example sentences with the verb **pšhatla** in (49a) illustrate that – **pšhatla** (break) is a monotransitive verb, i.e. a two-place predicate, with **Lucas** the subject argument bearing the thematic role of Agent, and **lerapo** (bone) as the object argument. The locative noun **letlapeng** (on the stone), the location argument, is a default argument. The sentence in (ii) of (49a) demonstrates the co-occurrence of the object argument **lerapo** (bone) with its agreement prefix. The sentences with **pšhatla** (break) in (49) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **metso tso ye mehlano** (for five minutes) in (bii). The agentivity of the subject argument **Lucas** is supported by the possibility to use the instrumental adverbial **ka gamola** (with a harmer) in (49c) and the manner adverbial **ka tlhokomelo** (carefully) in (49d) with the verb **pšhatla**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (49e)

The lexical semantic representation of the verb **pšhatla** reflecting structural and event structural properties displayed by the sentences in (49a) is as follows:

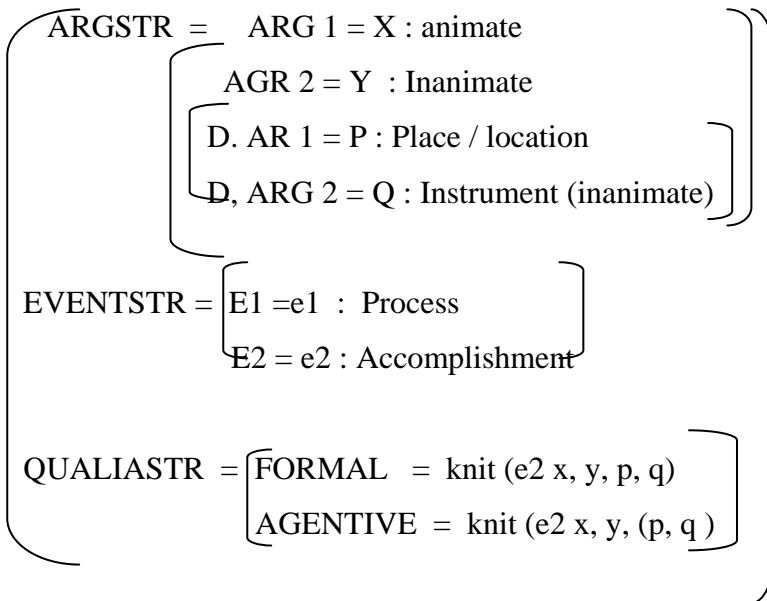


**50. Roka (Knit)**

- a. i. Margaret o roka sekhethe lethekeng.  
'Margaret knits a dress on the waist.'
- ii. Margaret o a se roka sekhethe lethekeng.
- b. i. Margaret o roka sekhethe lethekeng bošego.  
'Margaret knit a skirt on the waist in the night.'
- ii. Margaret o roka sekhethe lethekeng ka iri e tee.  
'Margaret knits a skirt on the waist for one hour.'
- c. Margaret of roka sekhethe lethekeng ka nalete.  
'Margaret knits a skirt on the waist with a needle.'
- d. Margaret o roka sekhethe lethekeng ka phišegelo.  
'Margaret knits a skirt on the waist ambitiously.'
- e. Sekhethe se rokwa lethekeng ke Margaret.  
'A skirt is knitted on the waist by Margaret.'

The example sentences with the verb **roka** in (50a) illustrate that – **roka** (knit) is a monotransitive verb, i.e. a two-place predicate, with **Margaret** the subject argument bearing the thematic role of Agent, and **sekhethe** (skirt) is the object argument. The locative noun **lethekeng** (on the waist), the location argument, is a default argument. The sentence in (ii) of (50a) demonstrates the co-occurrence of the object argument **sekhethe** (skirt) with its agreement prefix. The sentences with **roka** (knit) in (50) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **iri e tee** (in one hour) in (bii). The agentivity of the subject argument **Margaret** is supported by the possibility to use the instrumental adverbial **ka nalete** (with a needle) in (50c) and the manner adverbial **ka phišego** (ambitiously) in (50d) with the verb **roka**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (50e)

The lexical semantic representation of the verb **roka** reflecting structural and event structural properties displayed by the sentences in (50a) is as follows:



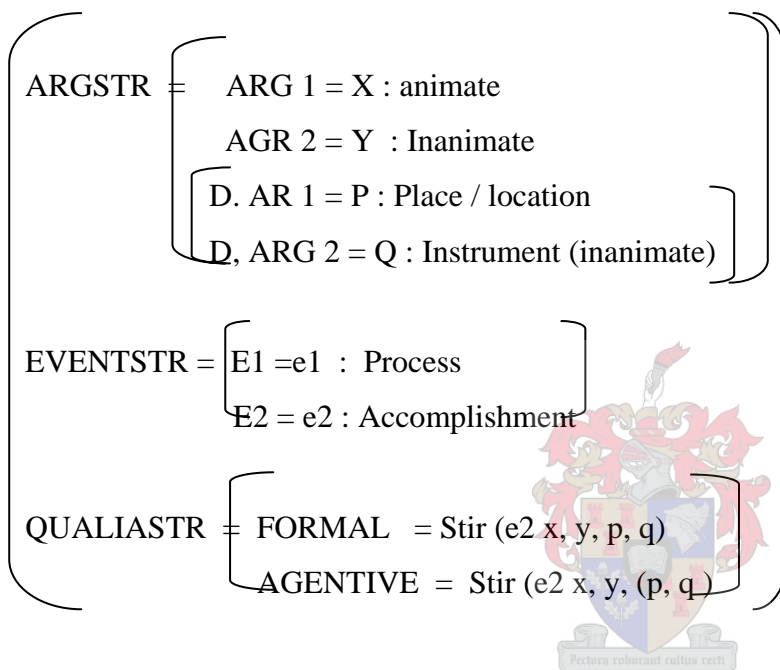
### 51. Ferehla (Stir)

- a. i. Elsa o ferehla swikiri teeng.  
'Elsa stirs sugar in the tea.'
- ii. Elsa o a e ferehla swikiri teeng.
- b. i. Elsa o ferehla swikiri teeng e sa le bošego.  
'Elsa stirs sugar in the tea in the morning.'
- ii. Elsa o ferehla swikiri teeng ka metsotswana ye mehlano.  
'Elsa stirs sugar in the tea for five seconds.'
- c. Elsa o ferehla swikiri teeng ka lelepola.  
'Elsa stirs sugar in the tea with a spoon.'
- d. Elsa o ferehla swikiri teeng ka mafolofolo.  
'Elsa stirs sugar in the tea energetically.'
- e. Swikiri e ferehlwa teeng ke Elsa.  
'Sugar is stirred in the tea by Elsa.'

The example sentences with the verb **ferehla** in (51a) illustrate that – **ferehla** (stir) is a monotransitive verb, i.e. a two-place predicate, with **Elsa** the subject argument bearing the thematic role of Agent, and **swikiri** (sugar) is the object argument. The locative noun **teeng** (in the tea), the location argument, is a default argument. The sentence in (ii) of (51a) demonstrates the co-occurrence of the object argument **swikiri** (sugar) with its agreement prefix. The sentences with **ferehla** (stir) in (51) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and

**metsotswana ye mehlano** (in five seconds) in (bii). The agentivity of the subject argument **Elsa** is supported by the possibility to use the instrumental adverbial **ka lelepola** (with a spon) in (51c) and the manner adverbial **go mafolofolo** (energetically) in (51d) with the verb **ferehla**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (51e)

The lexical semantic representation of the verb **ferehla** reflecting structural and event structural properties displayed by the sentences in (51a) is as follows:



## **52. Thunya (shoot)**

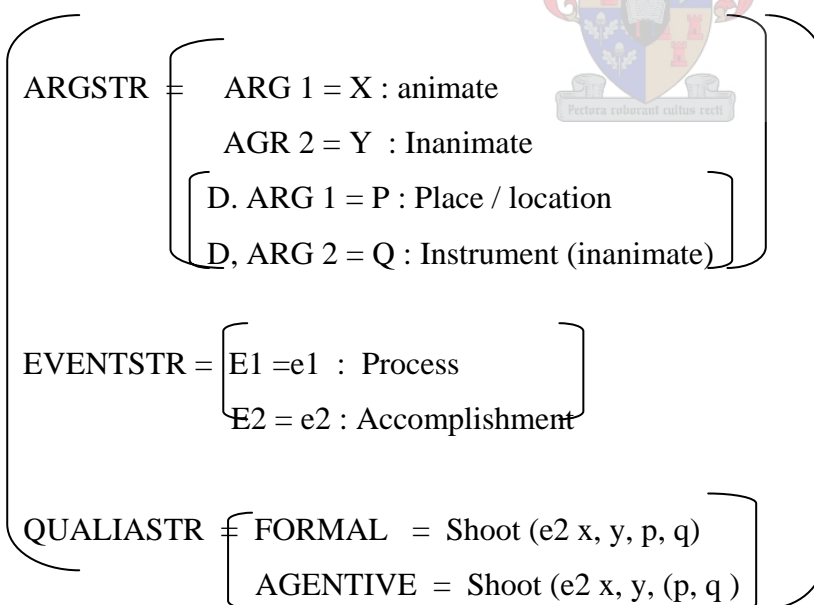
- a.
  - i. Asnath o thunya nonyana mohlareng  
'Asnath shoots the bird in the nest'
  - ii. Asnath o a e thunya nonyana mohlareng
- b.
  - i. Asnath o thunya nonyana mohlareng mosegare.  
'Asnath shoots the bird in the tree during the day'.
  - ii. Asnath o thunya nonyana mohlareng ka metsotso ye meraro.  
'Asnath shoots the bird in the tree for three minutes'.
- c. Asnath o thunya nonyana mohlareng ka sethunya.  
'Asnath shoots the bird in the tree with a gun'.
- d. Asnath o thunya nonyana mohlareng ka tlhokomelo.  
'Asnath shoots the bird in the tree carefully'.

e. Nonyana e thunywa mohlareng ke Asnath.

‘The bird is shot in the tree by Asnath’.

The example sentences with the verb **thunya** in (52a) illustrate that – **thunya** (shoot) is a monotransitive verb, i.e. a two-place predicate, with **Asnath** the subject argument bearing the thematic role of Agent, and **nonyana** (bird) as the object argument. The locative noun **mohlareng** (on the tree), the source argument, is a default argument. The sentence in (ii) of (52a) demonstrates the co-occurrence of the object argument **nonyana** (bird) with its agreement prefix. The sentences with **thunya** (shoot) in (52) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **metsofso ye mehlano** (for five minutes) in (bii). The agentivity of the subject argument **Asnath** is supported by the possibility to use the instrumental adverbial **ka sethunya** (with a gun) in (52c) and the manner adverbial **ka tlhokomelo** (carefully) in (52d) with the verb **thunya**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (52e)

The lexical semantic representation of the verb **thunya** reflecting structural and event structural properties displayed by the sentences in (52a) is as follows:



### **53. Letša (Beat)**

- a. i. Lesly o letša moropa ntlong.  
‘Lesly beats the drum in the house’.
- ii. Lesly o a o letša moropa ntlong.
- b. i. Lesly o letša moropa ntlong bošego-gare.  
‘Lesly beats the drum in the house in the mid-night’.
- ii. Lesly o letša moropa ntlong ka iri e tee.  
Lesly beats the drum in the house for one hour.
- c. Lesly o letša moropa ntlong ka tšhipi.  
Lesly beats the drum in the house with an iron’
- d. Lesly o letša moropa ntlong ka phišegelo.  
‘Lesly beats the drum in the house ambitiously’.
- e. Moropa o letšwa ntlong ke Lesly.  
‘A drum is beaten in the house by Lesly’.

The example sentences with the verb **letša** in (53a) illustrate that – **letša** (beat) is a monotransitive verb, i.e. a two-place predicate, with **Lesley** the subject argument bearing the thematic role of Agent, and **moropa** (drum) is the object argument. The locative noun **ntlong** (in the house), the location argument, is a default argument. The sentence in (ii) of (53a) demonstrates the co-occurrence of the object argument **moropa** (drum) with its agreement prefix. The sentences with **letša** (beat) in (53) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošegogare** (in the mid-night) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Lesley** is supported by the possibility to use the instrumental adverbial **ka tšhipi** (with iron) in (53c) and the manner adverbial **ka phišegelo** (ambitiously) in (53d) with the verb **letša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (53e)

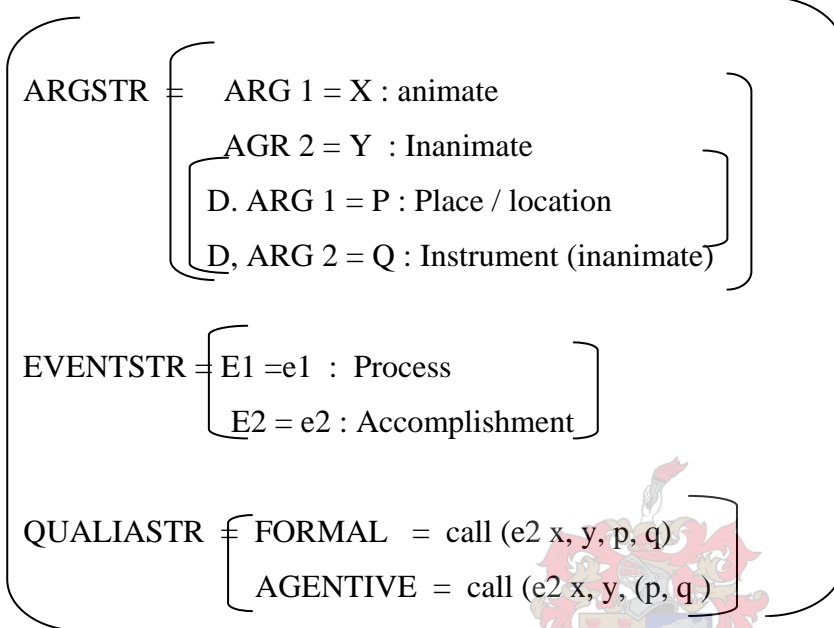
The lexical semantic representation of the verb **letša** reflecting structural and event structural properties displayed by the sentences in (53a) is as follows:





and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Matome** is supported by the possibility to use the instrumental adverbial **ka naka** (with a whistle) in (54c) and the manner adverbial **go phakiša** (quickly) in (54d) with the verb **bitša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (54e)

The lexical semantic representation of the verb **bitša** reflecting structural and event structural properties displayed by the sentences in (54a) is as follows:

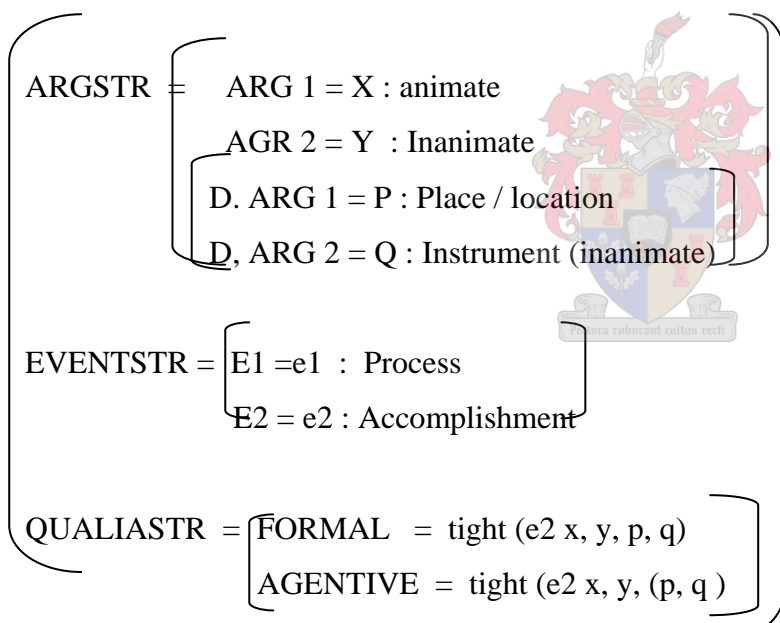


### 55. Swinketša (Tighten)

- a. i. Emly o swinketša pautu paesekeleng.  
'Emly tightens the nut on the bicycle.
- ii. Emly o a e swinketša pautu paesekeleng.
- b. i. Emly o swinketša pautu paesekeleng bošego.  
'Emily tightens the nut on the bicycle in the night'
- ii. Emly o swinketša pautu paesekeleng ka metsotso ye seswai.  
'Emly tightens the nut on the bicycle in eight minutes'.
- c. Emly o swinketša pautu paesekeleng ka sepanere.  
'Emly tightens the nut on the bicycle with a spanner'.
- d. Emly o swinketša pautu paesekeleng ka tlhokomelo.  
'Emly tightens the nut on the bicycle carefully'.
- e. Pautu paesekeleng e swinketšwa paesekeleng ke Emly.  
'The nut on the bicycle is tightened by Emly.

The example sentences with the verb **swinketša** in (55a) illustrate that – **swinketša** (tight) is a monotransitive verb, i.e. a two-place predicate, with **Emly** the subject argument bearing the thematic role of Agent, and **pautu** (nut) as the object argument. The locative noun **paesekeleng** (on the bicycle), the source argument, is a default argument. The sentence in (ii) of (55a) demonstrates the co-occurrence of the object argument **pautu** (nut) with its agreement prefix. The sentences with **swinketša** (tight) in (55) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye seswai** (for eight minutes) in (bii). The agentivity of the subject argument **Emly** is supported by the possibility to use the instrumental adverbial **ka sepanere** (with a spanner) in (55c) and the manner adverbial **ka tlhokomelo** (carefully) in (55d) with the verb **swinketša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (55e)

The lexical semantic representation of the verb **swinketša** reflecting structural and event structural properties displayed by the sentences in (55a) is follows:



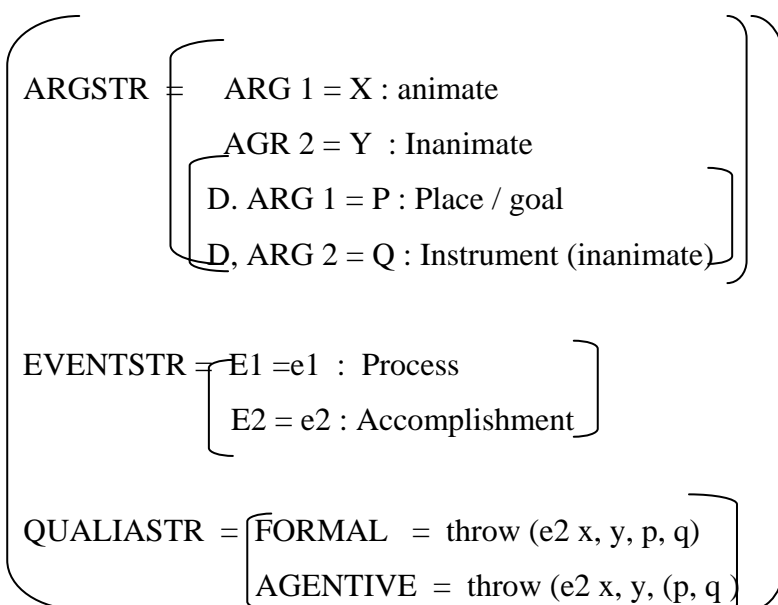
### **56. Foša (Throw)**

- a. i. Sello o foša pudi lešakeng.  
'Sello throws a goat into the kraal'.
- ii. Sello o a e foša pudi lešakeng.
- b. i. Sello o foša pudi lešakeng ka merithi.  
'Sello throws a goat into the kraal in the afternoon'.
- ii. Sello o foša pudi lešakeng ka metsotso ye šupago.

- ‘Sello throws a goat into the kraal in seven minutes’.
- c. Sello o foša pudi lešakeng ka letlapa.  
‘Sello throws a goat into the kraal with a stone’.
- d. Sello o foša pudi lešakeng ka maatla.  
‘Sello throws a goat into the kraal powerfully’.
- e. Pudi e fošwa lešakeng ke sello.  
‘A goat is thrown into the kraal by Sello’.

The example sentences with the verb **foša** in (56a) illustrate that – **foša** (throw) is a monotransitive verb, i.e. a two-place predicate, with **Sello** the subject argument bearing the thematic role of Agent, and **pudi** (goat) as the object argument. The locative noun **lešakeng** (in the kraal), the goal argument, is a default argument. The sentence in (ii) of (56a) demonstrates the co-occurrence of the object argument **pudi** (goat) with its agreement prefix. The sentences with **foša** (throw) in (56) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **metsotso ye e šupago** (in seven minutes) in (bii). The agentivity of the subject argument **Sello** is supported by the possibility to use the instrumental adverbial **ka letlapa** (with a stone) in (56c) and the manner adverbial **ka maatla** (powerfully) in (56d) with the verb **foša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (56e)

The lexical semantic representation of the verb **foša** reflecting structural and event structural properties displayed by the sentences in (56a) is as follows:

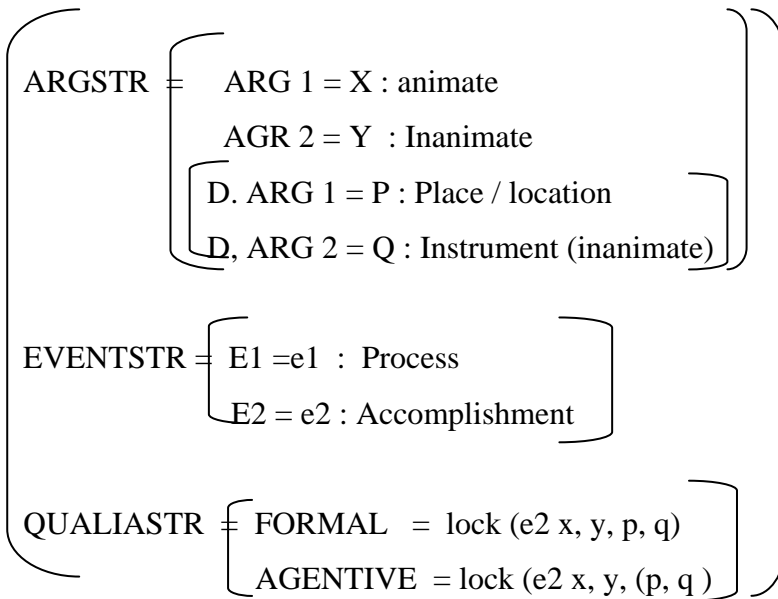


### **57. Notlela (Lock)**

- a. i. Anny o notlela sethunya sekhwameng.  
'Anny locks the gun in the safe'.
- ii. Anny o a se notlela sethunya sekhwameng.
- b. i. Anny o notlela sethunya sekhwameng bošego.  
'Anny locks the gun in the safe in the night'.
- ii. Anny o notlela sethunya sekhwameng ka diiri tše šupago.  
'Anny locks the gun in the safe for seven hours'
- c. Anny o notlela sethunya sekhwameng ka ketane.  
'Anny locks the gun in the safe with a chain'.
- d. Anny o notlela sethunya sekhwameng ka go nanya.  
'Anny locks the gun in the safe slowly.
- e. Sethunya se notlelwa sekhwameng ke Anny.  
'The gun is locked in the safe by Anny'.

The example sentences with the verb **notlela** in (57a) illustrate that – **notlela** (lock) is a monotransitive verb, i.e. a two-place predicate, with **Anny** the subject argument bearing the thematic role of Agent, and **sethunya** (gun) as the object argument. The locative noun **sekhwameng** (in the safe), the source argument, is a default argument. The sentence in (ii) of (57a) demonstrates the co-occurrence of the object argument **sethunya** (gun) with its agreement prefix. The sentences with **notlela** (lock) in (57) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **diiri tše šupago** (for seven hours) in (bii). The agentivity of the subject argument **Anny** is supported by the possibility to use the instrumental adverbial **ka ketane** (with a chain) in (57c) and the manner adverbial **go nanya** (slowly) in (57d) with the verb **notlela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (57e)

The lexical semantic representation of the verb **notlela** reflecting structural and event structural properties displayed by the sentences in (57a) is as follows:



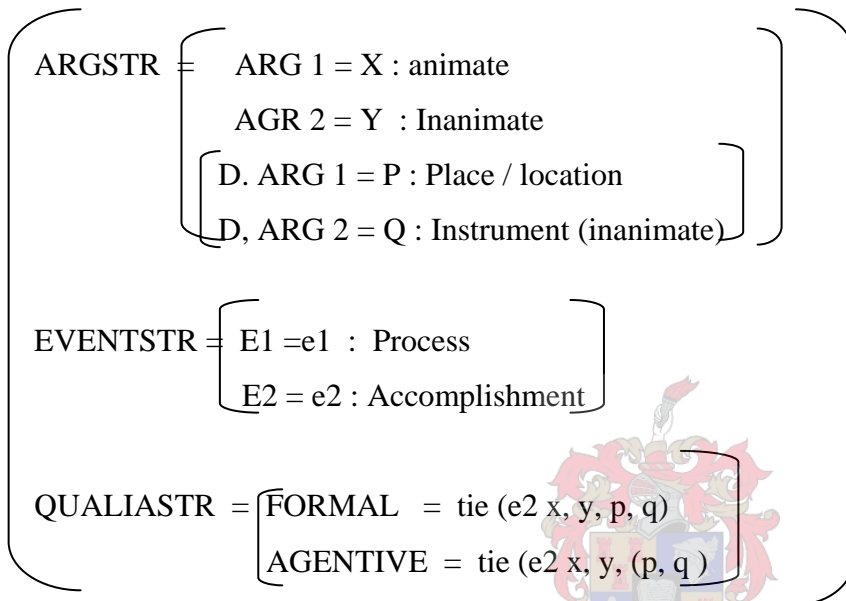
### 58. Bofa (Tie)

- a. i. Ragosebo o tlema nku molaleng.  
'Ragosebo ties the sheep on the neck'.  
ii. Ragosebo o a e tlema nku molaleng.
- b. i. Ragosebo o tlema nku molaleng bošego.  
'Ragosebo ties the sheep on the neck in the night'.  
ii. Ragosebo o tlema nku molaleng ka metsotso ye lesome – tee.  
'Ragosebo ties the sheep on the neck for eleven minutes'.
- c. Ragosebo o tlema nku molaleng ka thapo.  
'Ragosebo ties the sheep on the neck with a rope'.
- d. Ragosebo o tlema nku molaleng ka maatla.  
'Ragosebo ties the sheep on the neck powerfully'.
- e. Nku e tlangwa molaleng ke Ragosebo.  
'The sheep is tied on the neck by Ragosebo'.

The example sentences with the verb **bofa** in (58a) illustrate that – **bofa** (tie) is a monotransitive verb, i.e. a two-place predicate, with **Ragosebo** the subject argument bearing the thematic role of Agent, and **nku** (sheep) as the object argument. The locative noun **molaleng** (in the neck), the location argument, is a default argument. The sentence in (ii) of (58a) demonstrates the co-occurrence of the object argument **nku** (sheep) with its agreement prefix. The sentences with **tlema** (tie) in (58) demonstrate an accomplishment event or situation type. This is supported by the

temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye lesome-tee** (for eleven minutes) in (bii). The agentivity of the subject argument **Ragosebo** is supported by the possibility to use the instrumental adverbial **ka thapo** (with a rope) in (58c) and the manner adverbial **ka maatla** (powerfully) in (58d) with the verb **tlema**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (58e)

The lexical semantic representation of the verb **tlema** reflecting structural and event structural properties displayed by the sentences in (58a) is as follows:

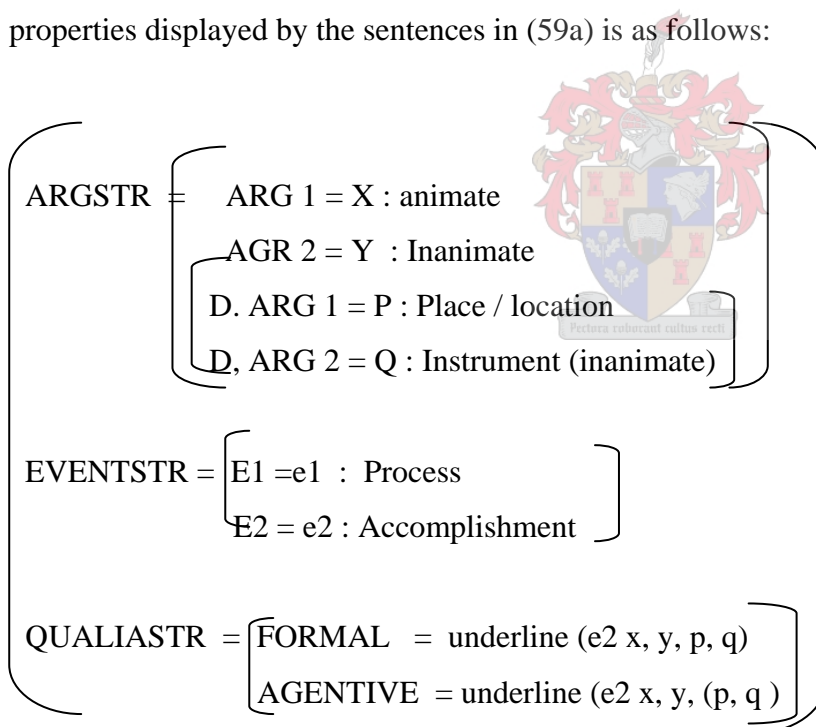


### **59. Thalela (Underline)**

- a.
  - i. Agnes o thalela lentšu lefokong.  
'Agnes underlines a word in the sentence'.
  - ii. Agnes o a le thalela lentšu lefokong.
- b.
  - i. Agnes o thalela lentšu lefokong ka merithi.  
'Agnes underlines the word in the sentence in the afternoon'.
  - ii. Agnes o thalela lentšu lefokong ka metsotso ye seswai.  
'Agnes underlines the word in the sentence for eight minutes'.
- c. Agnes o thalelela lentšu lefokong ka rula.  
'Agnes underlines the word in the sentence in the ruler'.
- d. Agnes o thalela lentšu lefokong ka tlhokomelo.  
'Agnes underlines the word in the sentence carefully'.
- e. Lentšu le thalelelwa lefokong ke Agnes.  
'The word is underlined in the sentence by ruler'.

The example sentences with the verb **thalela** in (59a) illustrate that – **thalela** (underline) is a monotransitive verb, i.e. a two-place predicate, with **Agnes** the subject argument bearing the thematic role of Agent, and **lentšu** (word) as the object argument. The locative noun **lefokong** (in the sentence), the location argument, is a default argument. The sentence in (ii) of (59a) demonstrates the co-occurrence of the object argument **lentšu** (word) with its agreement prefix. The sentences with **thalela** (underline) in (59) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **metsofso ve seswai** (for eight minutes) in (bii). The agentivity of the subject argument **Agnes** is supported by the possibility to use the instrumental adverbial **ka rula** (with a ruler) in (59c) and the manner adverbial **ka tlhokomelo** (carefully) in (59d) with the verb **thalela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (59e)

The lexical semantic representation of the verb **thalela** reflecting structural and event structural properties displayed by the sentences in (59a) is as follows:



## **60. Nwa (Drink)**

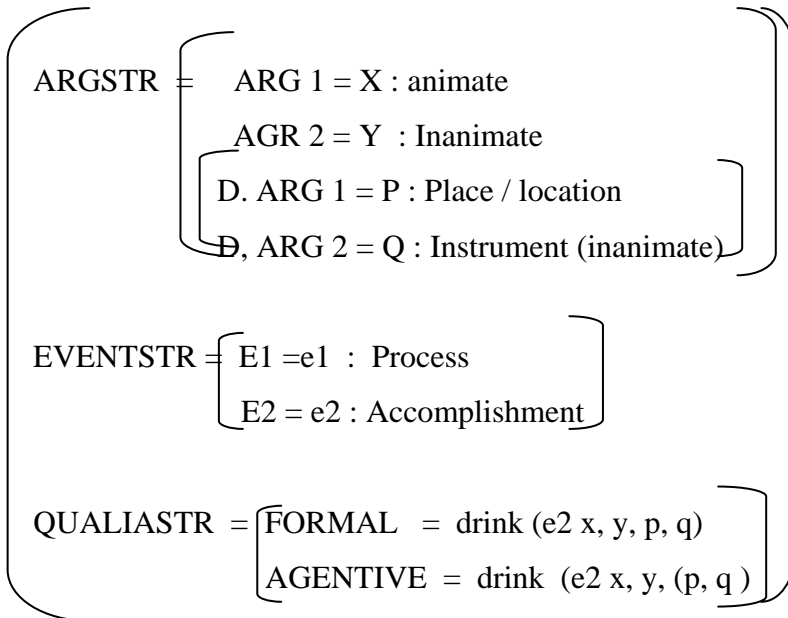
- a. i. Difetela o nwa senwamaphori lebotlolong.  
'Difetela drinks the cold drink from the bottle'.
- ii. Difetela o a se e nwa senwamaphori lebotleleng.



- b. i. Difetela o nwa senwamaphori lebotlelong ka merithi.  
‘Difetela drinks the cold drink from the bottle from the afternoon’.
- ii. Difetela o nwa senwamaphori ka metsotso ye lesome – hlano.  
‘Difetela drinks the cold drink from the bottle from fifteen minutes’.
- c. Difetela o nwa senwamaphori lebotlelong ka lehlakana.  
‘Difetela drinks the cold drink from the bottle with a straw’.
- d. Difetela o nwa senwamaphori lebotlelong ka khutšo.  
‘Difetela drinks the cold drink from the bottle with peace.’
- e. Senwamaphori se newa lebotlelong ke Difetela.  
‘The cold drink is drunk from the bottle by Difetela’.

The example sentences with the verb **nwa** in (60a) illustrate that – **nwa** (drink) is a monotransitive verb, i.e. a two-place predicate, with **Difetela** the subject argument bearing the thematic role of Agent, and **senwamaphori** (cool drink) as the object argument. The locative noun **lebotlelong** (in the bottle), the location argument, is a default argument. The sentence in (ii) of (60a) demonstrates the co-occurrence of the object argument **senwamaphori** (cool drink) with its agreement prefix. The sentences with **nwa** (drink) in (60) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **metsotso ye lesome-hlano** (for fifteen minutes) in (bii). The agentivity of the subject argument **Difetela** is supported by the possibility to use the instrumental adverbial **ka lehlakana** (with straw) in (60c) and the manner adverbial **ka khutšo** (peacefully) in (60d) with the verb **nwa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (60e)

The lexical semantic representation of the verb **nwa** reflecting structural and event structural properties displayed by the sentences in (60a) is as follows:



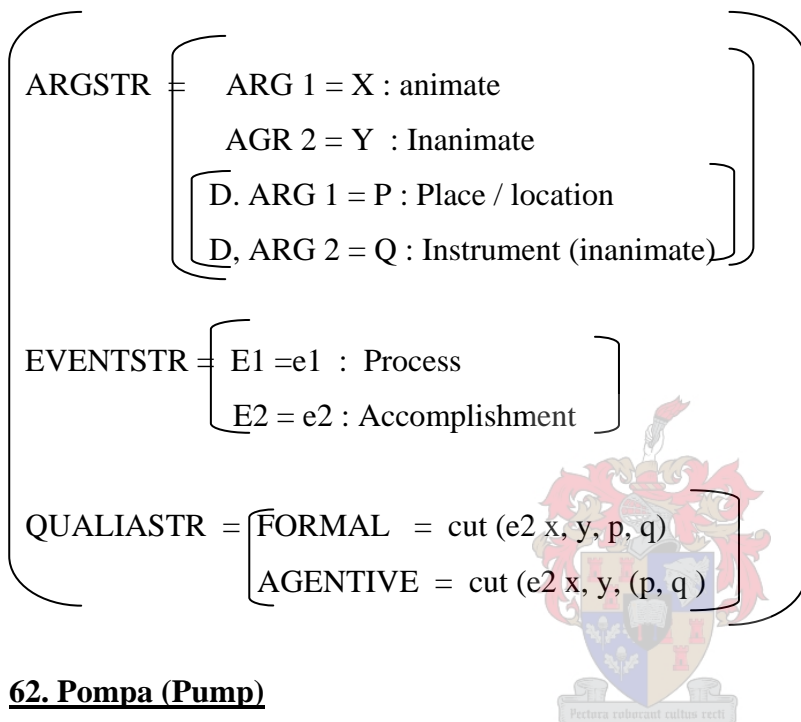
### 61. Ripa (Cut)

- a. i. Mable o ripa modu mohlareng.  
'Mable cuts the root on the tree'.
- ii. Mable o a o ripa modu mohlareng.
- b. i. Mable o ripa modu mohlareng e sa le bošego.  
'Mable cuts the root on the tree early in the morning'.
- ii. Mable o ripa modu mohlareng ka iri e tee.  
'Mable cuts the root on the tree in one hour'.
- c. Mable o ripa modu mohlareng ka selepe.  
'Mable cuts the root on the tree with an axe'.
- d. Mable o ripa modu mohlareng ka maatla.  
'Mable cuts the root on the tree powerfully'.
- e. Modu o ripša mohlareng ke Mable.  
'The root is cut on the tree by Mable'.

The example sentences with the verb **ripa** in (61a) illustrate that – **ripa** (cut) is a monotransitive verb, i.e. a two-place predicate, with **Mable** the subject argument bearing the thematic role of Agent, and **modu** (root) as the object argument. The locative noun **mohlareng** (on the root), the location argument, is a default argument. The sentence in (ii) of (61a) demonstrates the co-occurrence of the object argument **modu** (root) with its agreement prefix. The sentences with **ripa** (cut) in (61) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **iri e**

**tee** (for one hour) in (bii). The agentivity of the subject argument **Mable** is supported by the possibility to use the instrumental adverbial **ka selepe** (with an axe) in (61c) and the manner adverbial **ka maatla** (powerfully) in (61d) with the verb **ripa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (61e)

The lexical semantic representation of the verb **ripa** reflecting structural and event structural properties displayed by the sentences in (61a) is as follows:

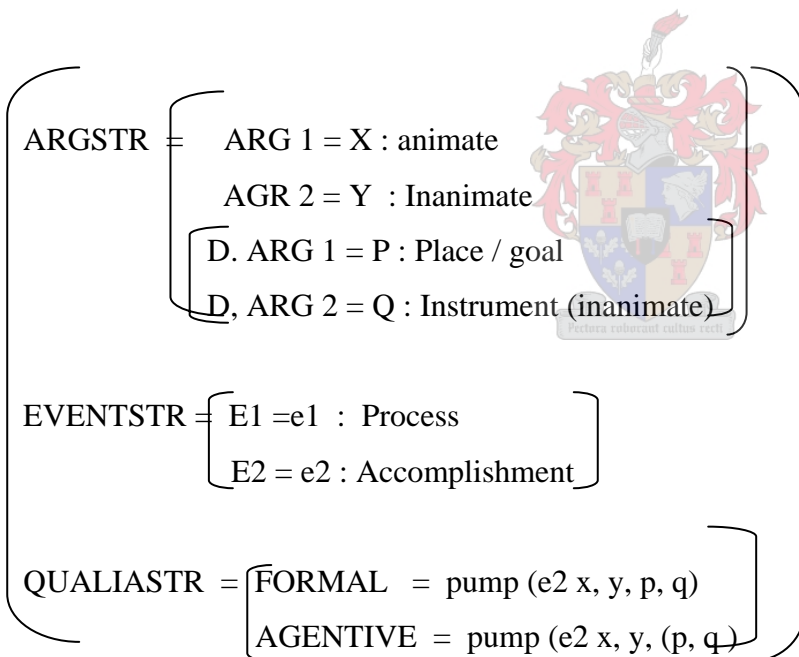


## **62. Pompa (Pump)**

- a.
  - i. Sefeufeu se pompa meetse letamong.  
'The windmill pumps water into the dam'.
  - ii. Sefeufeu se a a pompa meetse letamong.
- b.
  - i. Sefeufeu se pompa meetse letamong bošegi.  
'The windmill pumps water into the dam in the night'.
  - ii. Sefeufeu se pompa meetse letamong mosegare ka diiri tše šupago.  
'The windmill pumps water into the dam for seven hours'.
- c. Sefeufeu se pompa meetse letamong ka diphaephe.  
'The windmill pumps water into the dam with pipes'.
- d. Sefeufeu se pompa meetse letamong ka go phakiša.  
'The windmill pumps water into the dam quickly'.
- e. Meetse a pompša letamong ke sefeufeu.  
'Water is pumped into the dam by the windmill'.

The example sentences with the verb **pompa** in (62a) illustrate that – **pompa** (pump) is a monotransitive verb, i.e. a two-place predicate, with **Sefeufeu** the subject argument bearing the thematic role of Agent, and **meetse** (water) as the object argument. The locative noun **letamong** (into the dam), the source argument, is a default argument. The sentence in (ii) of (62a) demonstrates the co-occurrence of the object argument **meetse** (water) with its agreement prefix. The sentences with **pompa** (pump) in (62) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **diiri tše šupa** (for seven hours) in (bii). The agentivity of the subject argument **Sefeufeu** is supported by the possibility to use the instrumental adverbial **ka diphaephe** (with pipes) in (62c) and the manner adverbial **go phakiša** (quickly) in (62d) with the verb **pompa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (62e)

The lexical semantic representation of the verb **pompa** reflecting structural and event structural properties displayed by the sentences in (62a) is as follows:



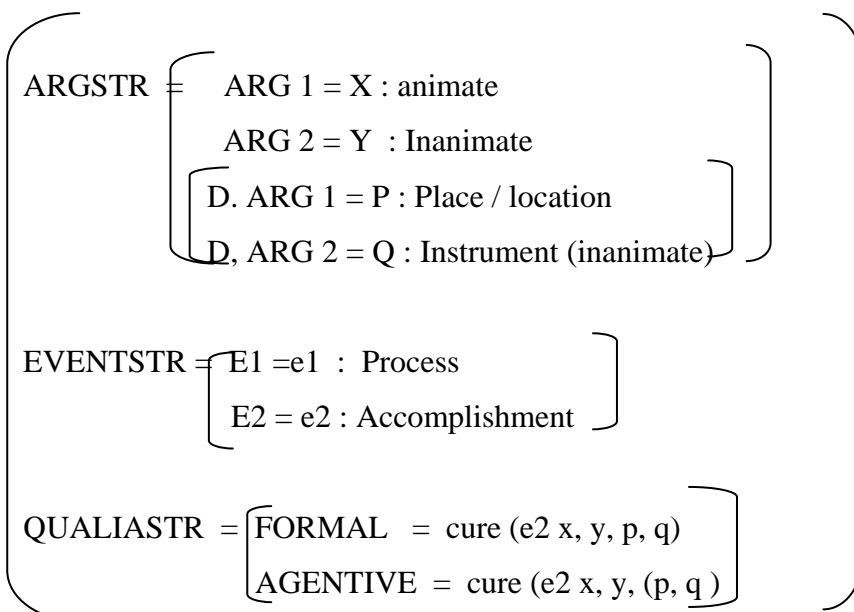
### **63. Alafa (Cure)**

- a. i. Ngaka e alafa bolwetši ngwaneng.  
‘The doctor cures sickness on the child’.
- ii. Ngaka e a bo alafa bolwetši ngwaneng.
- b. i. Ngaka e alafa bolwetši ngwaneng bošego.  
‘The doctor cures a sickness on the child’.

- ii. Ngaka e alafa bolwetši ngwaneng ka metsotso ye meraro.  
‘The doctor cures the sickness on the child for three minutes’.
- c. Ngaka e alafa bolwetši ngwaneng ka tšhwana.  
‘The doctor cures the sickness on the child with injection’.
- d. Ngaka e alafa bolwetši ngwaneng ka tlhokomelo.  
‘The doctor cures the sickness on the child carefully’.
- e. Bolwetši bo alafša ngwaneng ke Ngaka.  
‘The sickness is cured on the child by the doctor’.

The example sentences with the verb **alafa** in (63a) illustrate that – **alafa** (cure) is a monotransitive verb, i.e. a two-place predicate, with **Ngaka** the subject argument bearing the thematic role of Agent, and **bolwetši** (sickness) as the object argument. The locative noun **ngwaneng** (on the child), the location argument, is a default argument. The sentence in (ii) of (63a) demonstrates the co-occurrence of the object argument **bolwetši** (sickness) with its agreement prefix. The sentences with **alafa** (cure) in (63) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye meraro** (for three minutes) in (bii). The agentivity of the subject argument **Ngaka** is supported by the possibility to use the instrumental adverbial **ka tšhwana** (with an injection) in (63c) and the manner adverbial **ka tlhokomelo** (carefully) in (63d) with the verb **alafa**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (63e)

The lexical semantic representation of the verb **alafa** reflecting structural and event structural properties displayed by the sentences in (63a) is as follows:

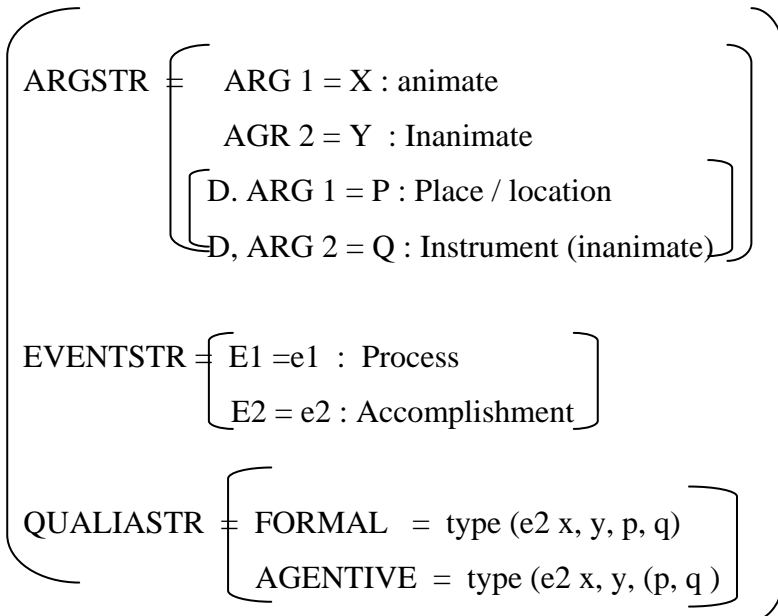


#### **64. Tlanya (Type)**

- a. i. Mongwaledi o tlanya mangwalo pampiring.  
‘The secretary type the letter on the paper’.
- ii. Mongwaledi o a a tlanya mangwalo pampiring’.
- b. i. Mongwaledi o tlanya mangwalo pampiring e sa le bošego.  
‘The secretary types the letters on the paper in the morning’.
- ii. Mongwaledi o tlanya mangwalo pampiring ka iri e tee.  
‘The secretary types the letters on the paper for one hour’.
- c. Mongwaledi o tlanya mangwalo pampiring ka motšhene.  
‘The secretary types the letters on the paper with a typewriter’.
- d. Mongwaledi o tlanya mangwalo pampiring ka go nanya.  
‘The secretary types the letters on the paper slowly.
- e. Mangwalo a ngwalwa pampiring ke mongwaledi.  
‘The letters are typed on the paper by the secretary’.

The example sentences with the verb **tlanya** in (64a) illustrate that – **tlanya** (type) is a monotransitive verb, i.e. a two-place predicate, with **Mongwaledi** the subject argument bearing the thematic role of Agent, and **mangwalo** (letters) as the object argument. The locative noun **pampiring** (on the paper), the location argument, is a default argument. The sentence in (ii) of (64a) demonstrates the co-occurrence of the object argument **mangwalo** (letters) with its agreement prefix. The sentences with **tlanya** (type) in (64) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Mongwaledi** is supported by the possibility to use the instrumental adverbial **ka motšhene** (with type-writer) in (64c) and the manner adverbial **go nanya** (slowly) in (64d) with the verb **tlanya**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (64e)

The lexical semantic representation of the verb **tlanya** reflecting structural and event structural properties displayed by the sentences in (64a) is as follows:



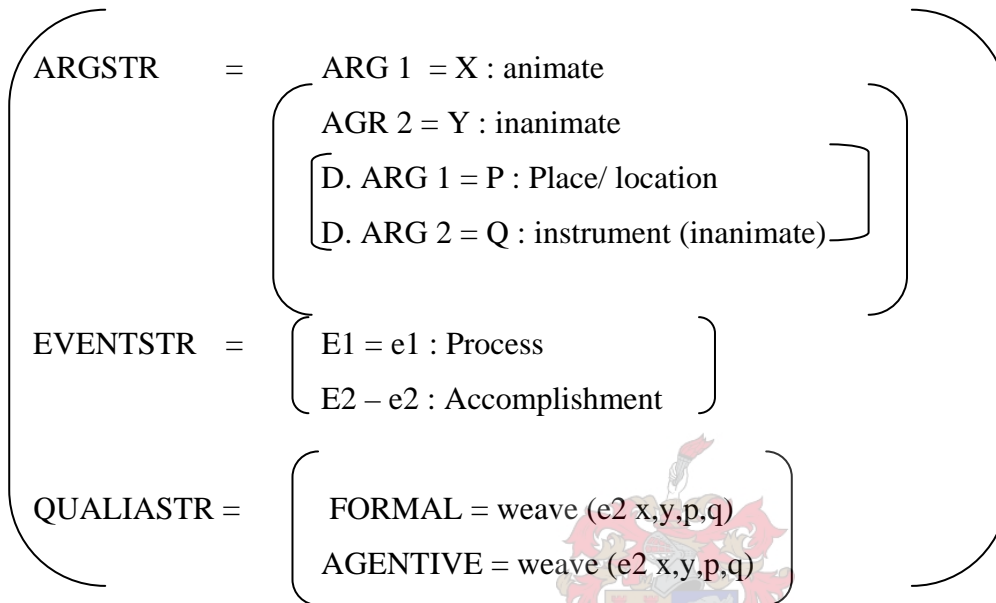
### **65. Loga (weave)**

- a. i. Mošemane o loga moriri hlogong.  
'The boy is weaving the hair on the head.'
- ii. Mošemane o a o loga moriri hlogong.
- b. i. Mošemane o loga moriri hlogong ka merithi.  
'The boy weaves the hair on the head in the afternoon.'
- ii. Mošemane o loga moriri hlogong ka diiri tše tharo.  
'The boy weaves the hair on the head for three hours.'
- c. Mošemane o loga moriri hlogong ka gare.  
'The boy weaves the hair on the head with threads.'
- d. Mošemane o loga moriri hlogong ka thlokimelo.  
'The boy weaves the hair on the head carefully.'
- e. Moriri o logwa hlogong ke Mošemane.  
'The hair is woven on the head by the boy.'

The example sentences with the verb **loga** in (65a) illustrate that – **loga** (weave) is a monotransitive verb, i.e. a two-place predicate, with **Mošemane** the subject argument bearing the thematic role of Agent, and **moriri** (hair) as the object argument. The locative noun **hlogong** (on the head), the location argument, is a default argument. The sentence in (ii) of (65a) demonstrates the co-occurrence of the object argument **moriri** (hair) with its agreement prefix. The sentences with **loga** (weave) in (65) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka merithi** (in the afternoon) in (bi) and **diiri**

**tše tharo** (for three hours) in (bii). The agentivity of the subject argument **Mošemane** is supported by the possibility to use the instrumental adverbial **ka gare** (with a thread) in (65c) and the manner adverbial **ka tlhokomelo** (carefully) in (65d) with the verb **loga**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (65e)

The lexical semantic representation of the verb **loga** reflecting structural and event structural properties displayed by the sentences in (65a) is as follows:



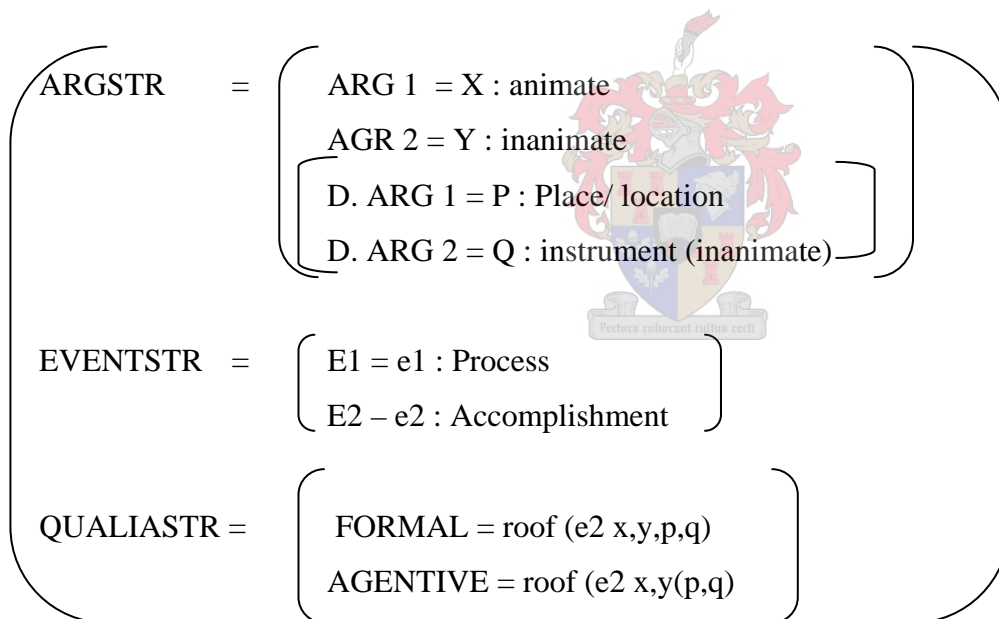
### **66. Rulela (Roof)**

- a. i. Difetela o rulela lepolanka lebotong.  
'Difetela roofs the timbers on the wall.'
- ii. Difetela o a le rulela lepolanka lebotong.
- b. i. Difetela o rulela lepolanka lebotong mosegare.  
'Difetela roofs the timber on the wall during the day'.
- ii. Difetela o rulela lepolanka lebotong ka diiri tše hlano.  
'Difetela roofs the timber on the wall for five hours'.
- c. Difetela o rulela lepolanka lebotong ka sepikiri.  
'Difetela roofs the timber on the wall with a nail'.
- d. Difetela o rulela lepolanka lebotong ka go nanya.  
'Difetela roofs the timber on the wall slowly'.
- e. Lepolanka le rulelwa lebotong ke Difetela.  
'The timber is roofed on the wall by Difetela'.



The example sentences with the verb **rulela** in (66a) illustrate that – **rulela** (roof) is a monotransitive verb, i.e. a two-place predicate, with **Difetela** the subject argument bearing the thematic role of Agent, and **lepolanka** (timber) as the object argument. The locative noun **lebotong** (on the wall), the location argument, is a default argument. The sentence in (ii) of (66a) demonstrates the co-occurrence of the object argument **lepolanka** (timber) with its agreement prefix. The sentences with **rulela** (roof) in (66) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **mosegare** (during the day) in (bi) and **diiri tše hlano** (for five hours) in (bii). The agentivity of the subject argument **Difetela** is supported by the possibility to use the instrumental adverbial **ka sepikiri** (with a nail) in (66c) and the manner adverbial **go nanya** (slowly) in (66d) with the verb **rulela**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (66e)

The lexical semantic representation of the verb **rulela** reflecting structural and event structural properties displayed by the sentences in (66a) is as follows:



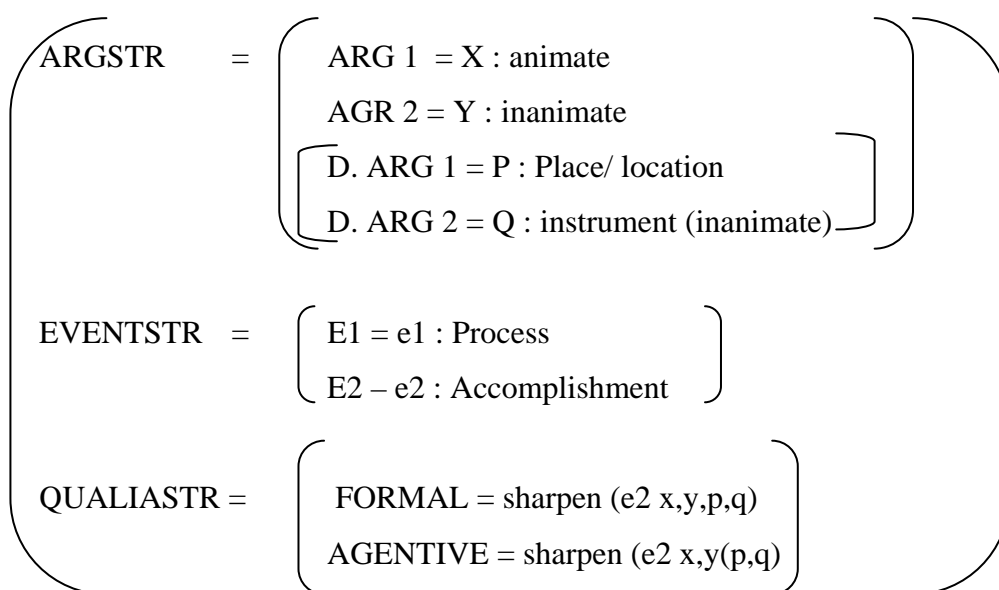
### **67. Loutša (Sharpen)**

- a. i. Mogamededi o loutša selepe bogaleng.  
'Mogamededi sharpens the axe on the edge'.
- ii. Mogamededi o a se loutša selepe bogaleng.
- b. i. Mogamededi o loutša selepe bogaleng ka mahwibi.  
'Mogamededi sharpens the axe on the edge at dawn'.
- ii. Mogamededi o loutša selepe bogaleng ka iri e tee.

- ‘Mogaramedi sharpens the axe on the edge for one hour’.
- c. Mogaramedi o loutša selepe bogaleng ka tshipi.  
‘Mogaramedi sharpens the axe on the edge with a rod’.
- d. Mogaramedi o loutša selepe bogaleng ka tlhokomelo.  
‘Mogaramedi sharpens the axe on the edge carefully’.
- e. Selepe se loutšwa bogaleng ke mogaramedi.  
‘The axe is sharpened on the edge by Mogaramedi’.

The example sentences with the verb **loutša** in (67a) illustrate that – **loutša** (sharpen) is a monotransitive verb, i.e. a two-place predicate, with **Mogaramedi** the subject argument bearing the thematic role of Agent, and **selepe** (axe) as the object argument. The locative noun **bogaleng** (on the edge), the location argument, is a default argument. The sentence in (ii) of (67a) demonstrates the co-occurrence of the object argument **selepe** (axe) with its agreement prefix. The sentences with **loutša** (sharpen) in (67) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **ka mahwibi** (at dawn) in (bi) and **iri e tee** (for one hour) in (bii). The agentivity of the subject argument **Mogaramedi** is supported by the possibility to use the instrumental adverbial **ka tshipi** (with a rod) in (67c) and the manner adverbial **ka tlhokomelo** (carefully) in (67d) with the verb **loutša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (67e)

The lexical semantic representation of the verb **loutša** reflecting structural and event structural properties displayed by the sentences in (67a) is as follows:

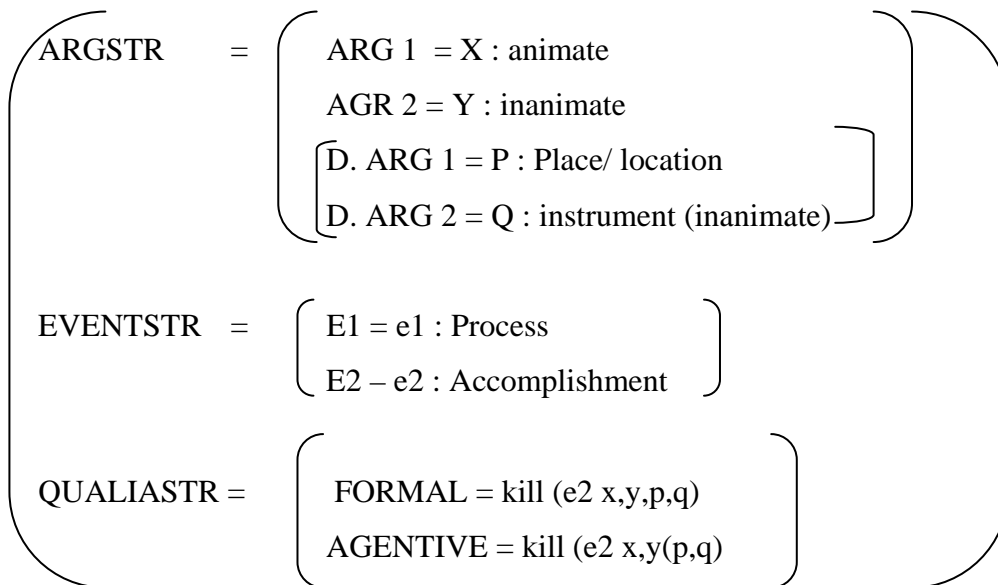


**68. Bolaya (Kill)**

- a. i. Ramatsobane o bolaya lefene moleteng.  
'Ramatsobane kills the cocroach in the hole'.  
ii. Ramatsobane o a le bolaya lefene moleteng.
- b. i. Ramatsobane o bolaya lefene moleteng bošego.  
'Ramatsobane kills the cocroach in the hole in the night'.  
ii. Ramatsobane o bolaya lefene moleteng ka metsotso ye mebedi.  
'Ramatsobane kills the cocroach in the hole for two minutes'.
- c. Ramatsobane o bolaya lefene moleteng ka sefuthela.  
'Ramatsobane kills the cocroaches in the hole with a spray'.
- d. Ramatsobane o bolaya mafene moleteng ka go phakiša.  
'Ramatsobane kills the cocroaches in the hole quickly'.
- e. Lefene le bolawa moleteng ke Ramatsobane.  
'The cocroach is killed in the hole by Ramatsobane'.

The example sentences with the verb **bolaya** in (68a) illustrate that – **bolaya** (kill) is a monotransitive verb, i.e. a two-place predicate, with **Ramatsobane** the subject argument bearing the thematic role of Agent, and **lefene** (cocroach) as the object argument. The locative noun **moleteng** (in the hole), the location argument, is a default argument. The sentence in (ii) of (68a) demonstrates the co-occurrence of the object argument **lefene** (cocroach) with its agreement prefix. The sentences with **bolaya** (kill) in (68) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye mebedi** (for two minutes) in (bii). The agentivity of the subject argument **Ramatsobane** is supported by the possibility to use the instrumental adverbial **ka sefuthela** (with a spray) in (68c) and the manner adverbial **go phakiša** (quickly) in (68d) with the verb **bolaya**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (68e)

The lexical semantic representation of the verb **bolaya** reflecting structural and event structural properties displayed by the sentences in (68a) is as follows:



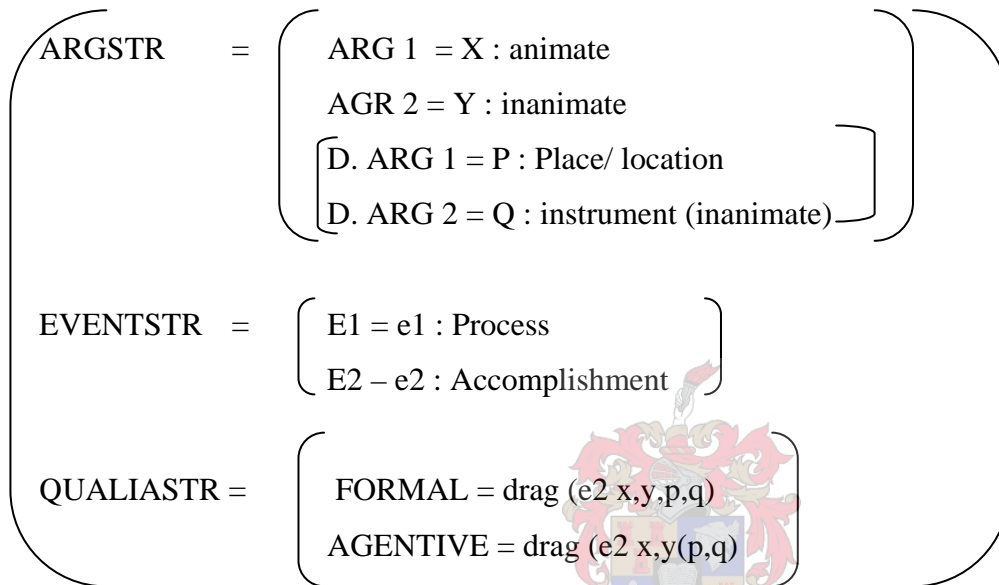
### **69. Goga (Drag)**

- a. i. Ramaesela o goga pudi mokgotheng.  
‘Ramaesela drags the goat in the street’.
- ii. Ramaesela o a e goga pudi mokgotheng.
- b. i. Ramaesela o goga pudi mokgotheng bošego.  
‘Ramaesela drags the goat on the street in the night.’
- ii. Ramaesela o goga pudi mokgotheng ka metsotso ye meraro.  
‘Ramaesela drags the goat in the street in three minutes’.
- c. Ramaesela o goga pudi mokgotheng ka lerala.  
‘Ramaesela drags the goat in the street with the strap’.
- d. Ramaesela o goga pudi mokgotheng ka go phakiša.  
‘Ramaesela drags the goat in the street quickly’.
- e. Pudi e gogwa mokgotheng ke Ramaesela.  
‘The goat is dragged in the street by Ramaesela’.

The example sentences with the verb **goga** in (69a) illustrate that – **goga** (drag) is a monotransitive verb, i.e. a two-place predicate, with **Ramaesela** the subject argument bearing the thematic role of Agent, and **pudi** (goat) as the object argument. The locative noun **mokgotheng** (on the street), the source argument, is a default argument. The sentence in (ii) of (69a) demonstrates the co-occurrence of the object argument **pudi** (goat) with its agreement prefix. The sentences with **goga** (drag) in (69) demonstrate an accomplishment event or situation type. This is supported by the temporal

durative adverbials in the sentence in (b): **bošego** (in the night) in (bi) and **metsotso ye meraro** (for three minutes) in (bii). The agentivity of the subject argument **Ramaesela** is supported by the possibility to use the instrumental adverbial **ka lerala** (with a strap) in (69c) and the manner adverbial **go phakiša** (quickly) in (69d) with the verb **goga**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (69e)

The lexical semantic representation of the verb **goga** reflecting structural and event structural properties displayed by the sentences in (69a) is as follows:

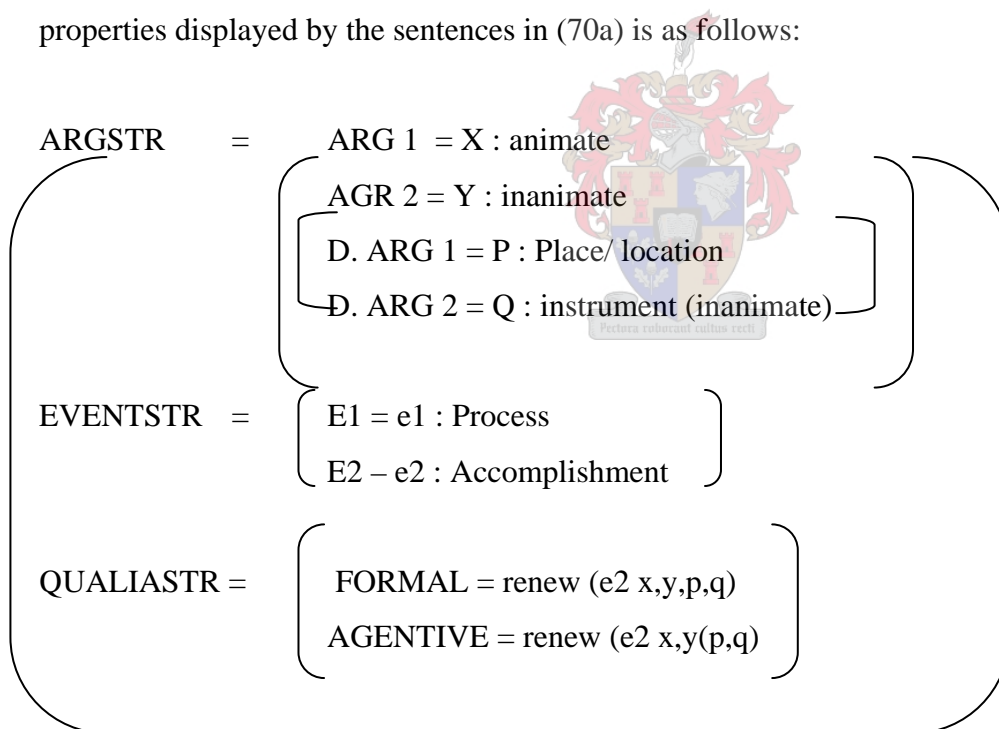


### 70. Mpshafatša (renew)

- a. i. Nancy o mpshafatša lebati ngwakong.  
'Nancy renews the door in the house'.
- ii. Nancy o a le mpshafatša lebati ngwakong.
- b. i. Nancy o mpshafatša lebati ngwakong e sa le bošego.  
'Nancy renews the door in the house early in the morning'.
- ii. Nancy o mpshafatša lebati ngwakong ka metsotso ye lesome – nne.  
'Nancy renews the door in the house for fourteen minutes'.
- c. Nancy o mpshafatša lebati ngwakong ka pente.  
'Nancy renews the door in the house with the paint'.
- d. Nancy o mpshafatša lebati ngwakong ka go nanya.  
'Nancy renews the door in the house slowly'.
- e. Lebati le mpshafatšwa ngwakong ke Nancy.  
'The door is renewed in the house by Nancy'.

The example sentences with the verb **mpshafatša** in (70a) illustrate that – **mpshafatša** (renewed) is a monotransitive verb, i.e. a two-place predicate, with **Nancy** the subject argument bearing the thematic role of Agent, and **lebati** (door) as the object argument. The locative noun **ngwakong** (in the house), the location argument, is a default argument. The sentence in (ii) of (70a) demonstrates the co-occurrence of the object argument **lebati** (door) with its agreement prefix. The sentences with **mpshafatša** (renewed) in (70) demonstrate an accomplishment event or situation type. This is supported by the temporal durative adverbials in the sentence in (b): **e sa le bošego** (in the morning) in (bi) and **metsofo ye lesome-nne** (for fourteen minutes) in (bii). The agentivity of the subject argument **Nancy** is supported by the possibility to use the instrumental adverbial **ka pente** (with the paint) in (70c) and the manner adverbial **go naya** (slowly) in (70d) with the verb **mpshafatša**. The possibility of the agent argument to occur as complement of the copular preposition **ke** is illustrated in (70e)

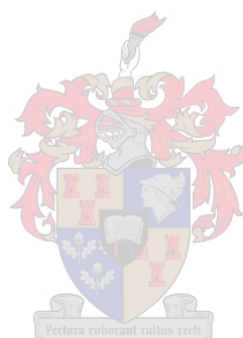
The lexical semantic representation of the verb **mpshafatša** reflecting structural and event structural properties displayed by the sentences in (70a) is as follows:



### 3.3 SUMMARY

The problem investigated in Chapter Three related to the argument structure and event structure properties of a selection of Northern Sotho verbs from a range of verb classes, including (i) verbs of putting, (ii) verbs of removing, (iii) verbs of sending and carrying, (iv) verbs of exerting force (push/pull verbs), (v) verbs of change of possession, (vi) learn verbs, (vii) verbs of throwing, (viii) verbs of contact by impact, (ix) verbs of cutting, (x) verbs of separating and disassembling, (xi)

verbs of creation and transformation, (xii) verbs of communication, (xiii) verbs of ingesting, (xiv) verbs of change of state, and (xv) verbs of motion. The analysis of the verbs in terms of their argument structure demonstrated that they are all monotransitive verbs, taking an object argument, which satisfies the diagnostic of being associated with an object agreement affix in the verbal morphology. In addition, these verbs were all shown to take a locative argument, which may be a true argument, for example with verbs such as **tloša** (remove), **fata** (dig), **tšholla** (pour), **tlema** (tie), **betša** (throw), **phumula** (wipe), **fula** (pick), **tsenya** (enter) and **foša** (throw), or a default argument, as with the other verbs. It was demonstrated in the analysis of the event structure of these verbs that they are all accomplishment events, resulting from a process and a change of state. These accomplishments all have the characteristic property of being telic, i.e. have an endpoint.



## CHAPTER FOUR

### CONCLUSION

The main purpose of this study was to investigate the argument structure and event structure properties of a range of verbs in Northern Sotho. The sentence constructions in which these selected verbs were occurred contained a locative expression, functioning as a shadow argument or default argument, in Pustejovsky's classification of argument types. The 70 verbs examined for Northern Sotho were representative of the following verb classes: (i) verbs of putting, (ii) verbs of removing, (iii) verbs of sending and carrying, (iv) verbs of exerting force (push/pull verbs); (v) verbs of change of possession, (vi) learn verbs, (vii) verbs of throwing, (viii) verbs of contact by impact, (ix) verbs of cutting, (x) verbs of separating and disassembling, (xi) verbs of creation and transformation, (xii) verbs of communication, (xiii) verbs of ingesting, (xiv) verbs of change of state, and (xv) verbs of motion.

The study presented an in-depth review in chapter two, of the theoretical framework of **Generative Lexicon Theory**. The fundamental principles of this theory relate to the expression of word meaning as it is determined compositionally in context that is how for example the verb meaning is determined by the verb constellation, i.e. the verb together with its subject and complement arguments. Generative Lexicon Theory thus aims to account for polysemy, i.e. logically related word meanings, in term lexical conceptual paradigms, which represent systematic variation of words as regard argument structure, event structure, qualia structure, and lexical inheritance structure.

Chapter 3 investigated a wide range of verbs with an object argument and a locative complement, which itself occurs as a true argument of some verbs, and as a default argument of other verbs. It was demonstrated that these verbs occur in sentences that are accomplishment events, in that they are all dynamic, resulting in a change of state, and telic, that is they have a logical end-point or culmination. The locative complement contributes to this event reading of accomplishment in a crucial way.



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