

**The Syntax, Semantics and Argument Structure of
Complex Predicates in Modern Farsi**

by

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List of Abbreviations

A, Adj	Adjective
ACC	Accusative
chap	chapter
CP	Complex Predicate
CS	Causative
DE	Definiteness effect
DO	Direct object
DR	Definiteness restriction
D-S	Deep Structure
ECM	Exceptional Case Marking
ex(s).	Example(s)
EPP	Extended Projection Principle
EZ	Ezāfe
ft.	footnote
GF	Grammatical Function
GLI	Generalized Lexical Integer
GQ	Generalized Quantifier
INCH	Inchoative
indf	indefinite
IND	Indicative
IO	Indirect object
l-syntax	lexical syntax
LCS	Lexical Conceptual Structure
LRS	Lexical Relational Structure
LV	Light verb
MF	Modern Farsi
N	Noun
NEG	Negative
NP	Noun phrase
P	Preposition
PART	partitive (case)
PAS	Predicate Argument Structure
PASS	Passive
PG	Parasitic gap
PL	Plural
PP	Prepositional phrase
PRG	Progressive
ppr	Past participle
pr	Present stem
ps	Past stem
PV	Preverb

s-syntax	Surface sentential syntax
S	Singular
S-S	Surface Structure
SUJ	Subjunctive
V	Verb
VP	Verb phrase
XP	Maximal projection (of any lexical category)
'	for Glottal stop

Abstract

This thesis studies the argument structure and formation of the very productive and frequent complex verbal structures in Modern Farsi (MF), i.e., Persian, known as compound verbs or Complex Predicates (CP). CPs are complex verbal structures made up of a preverbal element (PV) and a verb. The verbal element is normally a light, bleached, and/or backgrounded verb (LV). The PVs may belong to any of the lexical categories nouns, adjectives, adverbs, prepositions, or to prepositional phrases (PP). The combinations of PVs and LVs form single semantic and syntactic verbal predicates that constitute the major body of verbal predicates in MF, i.e., CPs. However, there seems to exist a major dichotomy in the syntactic and lexical function of CPs in MF. CPs exhibit the sort of lexical information and co-occurrence conditions ordinarily associated with derived or compounded words, and participate in derivational morphology, yet their status as syntactically atomic morphological objects is questionable since their parts are separable in syntax where they behave as finite predicates.

To resolve the dichotomy and account for the function and structure of CPs as X^0 and $X^{\max}$ items, I suggest two *isomorphic levels of syntactic structure* in the format of X-bar theory in the lexical and syntactic components. I argue that both full verbs and their equivalent LVs share the isomorphic syntactic structure. Both types of verbs belong to the *universal category verbs* which take a *single complement* as in Larson (1988) and Hale & Keyser (1991, 1993) in the lexical and syntactic domains. Word-formation, i.e., conflation/incorporation, takes place in the morphological and/or the lexical component but not in the syntactic one which accounts for the dual behaviour of the CPs at the two levels.

I argue that LVs are *bleached predicates of existence* and account for their semantic and syntactic behaviour by recourse to Definiteness Effect (DE). I suggest that the DE is a property of

certain verbs whose thematic/logical substance is bleached, emptied or backgrounded and their meaning is reduced to the assertion of EXISTence, culmination to a STATE. That is, LVs contain any of the primary logical components EXIST, BECOME, BRING into EXISTENCE, DO, MAKE, BE, GO, COME to BE, BECOME, in the sense of Dowty (1979), as part of their lexical meaning. Many such predicates also contain a Motion, Change of Location/State component. Such verbs are called DE-verbs or LVs. The syntactic function of LVs is then accounted for by recourse to the DE similar to the standard existential constructions. That is, LVs induce Definite Restriction (DR) in their VP-internal position within V-bar (Milsark 1974) and are only compatible with a weak, indefinite NP or XP as their VP-internal complement. They induce an *existential reading*.

On the other hand, we notice that NPs/XPs that occur as PVs within CPs are all weak and indefinite, and convey an *existential reading*. They can only appear in a syntactic position that is compatible with an existential reading in syntax. LVs provide such syntactic positions. The indefinite, predicative XPs occur as the single internal complements of the LVs.

PVs are substantive and have non-logical content, but LVs are non-substantive. I argue that PVs *substantiate* the LVs by occurring within *V-bar* in the syntactic component. V-bar is the innermost and deepest level of the VP-shell, in the format of X-bar structures, as in Larson and Hale & Keyser. I have argued that all PVs are semantically *predicates* as opposed to *arguments* and their distribution is subject to the *predication condition* Rothstein (1983). PVs combine with LVs and form *phrasal lexical integers*/CPs within V-bar and enter into a *theta-identification relation* with them (Higginbotham 1985). Now, V-bar is a syntactic and phrasal unit, i.e., a CP, that is subject to predication condition. V-bar must saturate its open positions and be predicated of a subject in syntax. A PV (and the whole CP) in this function behaves as an $X^{\max}$ in syntax.

In the lexical domain, I adopt the theory of Lexical Relational Structure (LRS) of Hale & Keyser (1991, 1993) that is a syntactic, X-bar theory of argument structure. I argue that similarly to V-bar in syntax, the PVs occupy the innermost and the deepest level of VP-projection and occur as the single complement of the LVs at LRS. However, the head of the PVs may conflate or incorporate (cf. Talmy 1985) into the head of the LV as an instance of head-to-head movement to form a synthetic CP with the properties of *morphological objects*. This CP is formed in the lexical domain, but according to the principles of syntax and is called a *syntactic word* that accounts for the syntactic atomicity of the CPs.

Chapter I

Complex Predicates in Modern Farsi: A Descriptive Analysis

1.0 Introduction

This thesis examines the argument structure and formation of complex verbal structures in Modern Farsi, or Persian, known as compound verbs in the Iranian linguistic literature. The term Complex Predicate (CP) is used to label them in this thesis, however, the terms compounds verbs and compounds will also be used to refer to them when no specific claim is being made as to their structure or formation.

Farsi, Modern Farsi (MF) or Persian, the official language of Iran, is one of the three major daughter languages of the Iranian branch of the Indo-Iranian languages at present time. The other two are Dari (spoken in Afghanistan) and Tadjiki (in Tadjikestan). I will use the terms MF, Farsi, and Persian interchangeably in this study. The style of the language under investigation is the standard, written language as used in school and university textbooks, mass media, and in few instances the colloquial dialect of Tehran, the most prestigious dialect of Iran.

CPs in MF are verbal complexes consisting of a non-verbal element followed by a verbal element. These are structures like "give a kiss", "take a nap", "give a sneeze", "take a walk" etc., where a non-verbal element combines with a verb which has partially or totally lost its semantic content. The two elements form an intuitively single semantic unit with a meaning different from the original meaning of the verb. The pattern is used to coin and form lexical or lexicalized compound verbal units non-existent or co-existent with other simple verbs in the language, with no or slight aspectual differences. The term preverb (PV) is used to refer to the first non-verbal element of CPs whether these are single free or bound elements, or phrasal elements like a PP, NP, or AdvP, etc (cf.

Ackerman 1995; Ackerman & LeSourd 1995). The term **hamkard** (together+ do), coined by the distinguished linguist of Iran, the late Dr. Khanlari, is used interchangeably with the term LV to refer to the verbal part of CPs of MF.

The main concern of this chapter is a descriptive analysis of the formation, structure, and distribution of CPs. I will describe both morphological and syntactic properties of CPs. Morphological properties of CPs indicate that they have the characteristics of lexical X^0 elements, and show syntactic atomicity, a property attested of lexically-formed compound words. On the other hand, their syntactic behaviour and properties indicate that CPs are phrasal and violate syntactic atomicity. That is, CPs show properties of syntactically-formed maximal phrases (XP). I will resolve the dichotomy in the subsequent chapters by proposing two (isomorphic) syntactic levels of representations and formations in the syntax and lexical, morphological components for the CPs.

In chapter 2, I will take a formal semantic approach to the relationship between the PVs and the LVs arguing that LVs are existential predicates or Definiteness Effect verbs that impose an existential reading on their VP internal object position. This position may only be filled by a phrase that is weak and indefinite. I will then argue that weak NPs in the standard existential structures are *predicates* as opposed to *arguments* and must enter into a predicate modification relationship with the LVs. In chapter 3, I show that predicate modification occurs within V-bar which is the deepest level of VP-projection, i.e., the closest syntactic position to the LV. I will also discuss and defend a syntactic model of argument and/or morphological structure which takes care of the lexical and wordhood property of the CPs, in chapter 3. Chapter 4 explores the outcome of the theoretical discussions in chapters 2-3 to the contrastive set of CPs formed with the LVs **kard-an** "to do" and **šod-an** "to become" with focus on the lexical semantic properties of these CPs. Chapter 5 discusses

CPs formed with the so-called full, thematic verbs and passive structures in MF showing that they form CPs just like the more obvious CPs with the LVs. Chapter 6 discusses the contrastive CPs formed with the LVs **zad-an** "to hit" and **xord-an** "to collide" by adopting and elaborating recent research by Levin and Rapoport (1995). Chapter 7 concludes and defends a *single complement hypothesis* (Larson 1988) for both full verbs and LVs which can account for the argument structure of the CPs in a straightforward manner.

1.1 Types of Complex Predicates (CP)

CPs can be divided into different types depending on the lexical category or the type of the PVs, and the type of the verbs or hamkards. I take the verbal part as the basis of classification of CPs in a group. The semantic/thematic content of the verbal elements or hamkards may be either totally empty and bleached, or partially bleached and backgrounded. However, they seem to retain an impoverished argument structure of their corresponding full verbs in most instances (cf. chapters 2-3). These are known as light verbs (LV) and are also referred to as **hamkards** in this study.

Many CPs come in contrastive pairs, e.g. transitive/causative vs. intransitive, and accomplishment vs. inchoative. (1) below provides a short list of the major LVs/hamkards in MF (see chapter 2 for a complete list). I will show that LVs tend to select weak, indefinite, non-referential XPs/NPs as complements. LVs will be called definiteness Effect (DE) verbs while their indefinite complements will be called DE-complements (cf. chapter 2). All examples in (1) are in **-an** masdar, or CP-infinitive (CP-INF) forms. CP-INFs are assumed to count as nominalized forms of the CPs and

behave as compound X^0 elements¹ (see § 1.3).

I. **Light Verbs or Hamkards (=DE-Verbs):**

- (a) (i) **dād-an** "to give" (Causative, (CS));
- (ii) **dāšt-an** "to have"; **gereft-an** "to get, to receive";
yāft-an "to find"; **peydā=kard-an** "to find" **xord-an** "to collide"; **did-an** "to see, to endure", all INCH (-oative);
- (b) (i) **kard-an** "to do"; and its stylistic variants **namud-an** "... "; **farmud-an** "to order, to tell"; **gardānid-an** "to turn, to cause to turn".
- (ii) **šod-an** "to become"; and its stylistic variants **gašt-an** "to turn"; **gardid-an** "to turn, to become";
- (c) (i) **zad-an** "to hit";
- (ii) **xord-an** "to collide, to hit", (INCH);

There are a number of CPs that have a corresponding simple verb so that both verbs are co-existent. The PVs of such CPs are associated with a nominalization form of the simple verbal stems. The CPs are more colloquial while the simple verbs are more formal and sometimes archaic, as in (2):

2.a	časb-ānd-an	glue-CS.ps-INF	to glue
.b	časb=zad-an	glue=hit-INF	to glue
.c	xandid-an	laugh.ps-INF	to laugh
.d	xande=kard-an	laughter=do-INF	to laugh

The CP-INFs in (2b, 2d), like the simple verbs in (2a, 2c), can further undergo other derivational and inflectional processes and are subject to the rules, blocking effects and idiosyncrasies normally

¹The = sign is used to indicate the derived (lexicalized) forms of CPs as in the CPs ending with the infinitive suffix -an or other derivational affixes, e.g. **did-an** "to see", **xāb=did-an** "to dream, to have a dream"; **xord-an** "to eat", **qazā=xord-an** "to (food-)cat", and **sālon-e qazā=xor-i** "dining salon, restaurant".

attested of the morphological and/or lexical component.

Verbs known as full, thematic verbs can also form CP(-INF)s by combining with their selected direct internal arguments (syntactic DOs). In this use the semantic/thematic content of the verb is partially bleached and backgrounded, and the aspectual type of the verb seems to change (cf. chapter 2-3), as in (3).

3.a	qazā=xord-an	food=eat.ps-INF	to eat food
.b	'āb=xord-an	water=eat.ps-INF	to drink (water)
.c	ketāb=xānd-an	book=read.ps-INF	to book-read, to read books
.d	lebās=pušid-an	clothes=wear.ps-INF	to put on clothes

Mohammad & Karimi (1992) make a distinction between CPs formed with true bleached LVs, (1), like **kard-an** "to do" as in **xafeh=kard-an** "to suffocate", **čub=zad-an** "to punish", and verbal complexes formed from an object NP and verbs that are standard'y known as full, or thematic verbs like **xord-an** "eat" in **qazā=xord-an** "to food-eat", and **pušid-an** "to wear" as in **lebās=pušid-an** "to put on clothes" in (3). They call the latter object+verb combinations/phrases and the former CPs (see also Karimi 1987; Tabaian 1979; Moyne 1970; Khanlari 1979 for a similar position). We do not make such a distinction, and like Ghomeshi & Massam (1994), treat both groups as cases of CPs.

Khanlari (1979: 205) argues that the examples in (4) are not compound verbs while the one

4.a	divār=sāxt-an	wall build-INF	to build a wall, to wall-build
.b	xāne=sāxt-an	house=build-INF	to build a house, to house-build
5.	xarāb=sāxt-an	ruined=build-INF	to ruin

in (5) is. He claims that the meaning in (4) is compositional and conforms to the meaning of the individual words, but it is not in (5) where the compound conveys a new sense different from the meaning of the individual words (he uses example (4a) only, but his analysis is extendable to (3) and (4b)). In my analysis (see also Ghomeshi & Massam 1994), these are all cases of true compound

verbs or CPs. There are no differences in structures and principles that govern the formation of CPs in (1 & 5) and those in (3 & 4). Similar to the CPs in (1 & 5), the CPs with the so-called thematic verbs in (3 & 4) can also undergo morphological derivations and inflections other than just the CP-INFs forms above e.g. the abstract nominals in (6-7) are derived from the CPs in (4 & 5) by suffixing **-i** to their present stems:

6.a	divār=sāz-i	wall=build-i	(the action of) wall-building
.b	xāne=sāz-i	house=build-i	(the action of) house-building
7.	xarāb=sāz-i	ruined=build-i	(the action of) ruining

Examples in (8) are derived from the CPs with the full, thematic verb **xord-an** "to eat" in (3a-b):

8.a	qazā=xor-i	food=eat-i	(the event of) food-eating
.b	'āb=xor-i	water=eat-i	(the event of) water-drinking

The derivations in (8) are used as input to form other phrasal compoundings as shown in (9):

9.a	sālon-e qazā=xor-i	saloon-EZ food=eat-i	Dining saloon, restaurant
.b	livān-e 'āb=xor-i	glass-EZ water=eat-i	A(water-drinking) glass, a mug

As evidence that the suffix **-i** is added to the CP and not to the simple verbal stems in the above examples note that ***xor-i** and ***sāz-i** are ungrammatical by themselves.

I argue that both types of CPs (those made with LVs (1) and those with the so-called full, thematic verbs (3-4)) are formed according to identical syntactic rules, and morphological processes in the syntactic and lexical components respectively (see chapters 2-3 for detail). In the next section, I will study the types of PVs in CP-structures, disregarding the type of the hamkards.

1.2 Types of Preverbs (PV)

The Preverb (PV), or the non-verbal element, of a CP may be (a) simple, derived or compound nouns, common and instrumental nouns, predicative nominals of Persian, Arabic or even

English or French origin; (b) an adjective, and the past participle of a verb; (c) a VP-internal adverb, and/or particles; and (d) a preposition and/or a prepositional phrase (PP). The full verbs normally select their subcategorized direct internal complements (object NPs) as their PVs.

1.2.1 Adverb and Particle PVs: VP-internal adverbs function as the modifiers of the hamkards/verbs. The major adverbial PVs are: **bar** "over, on", **bāz** "again", **birun** "again", **dar** "in", **farā** "forward, close", **jelo** "forward", **pas** "back, rear", **piš** "front, near", **sar** "head, over", **var** "side", **bālā** "up", **pā'in** "down", **foru** "down", etc. Sadeghi & 'Arjang (1980) call them *verbal prefixes* claiming that these were originally adverbs but are now formally homophonous with some prepositions which were in turn originally adverbs as well. Some of these adverbs are not used in isolation any more and are only found in the CP-structures.

In X-bar theoretic terms (Larson 1988), VP-adverbs occupy a deeper position in the X-bar VP-shell than other VP-internal arguments of the verb. VP-adverbs are considered not as the outermost adjuncts of verbs rather as their innermost complements, and so they stay closer to the verbs than the other complements (see McConnell-Ginet 1982; Larson 1988; Speas 1990). Adverbial PVs enter into the closest syntactic, morphological and phonological ties with the hamkards, yet they are separable from the hamkards similar to other PVs (see § 1.4). Notice these examples:

10.a	bāz/bar=gašt-an	again/on turn-INF	to return
.b	bar=xāst-an	on/over want-INF	to stand up/get up
.c	bar=xord-an	over collide+INF	to confront
.d	bāz=dāšt-an	again have-INF	to prevent

The deverbal nominal **bar=xord** "meeting sb by chance, collision" is derived from the CP **bar+xord-an** (10c), and **bar** "over" is an adverbial. **Bar=xord** forms a new CP with the hamkard **kard-an**, with a very close meaning, i.e., **bar-xord=kard-an** "to meet sb by chance". Similarly, **bāz=dāšt**

"detainment", the nominalized form of the CP-INF **bāz=dāšt-an** "to prevent" (10d), is used as PV in the CPs **bāz=dāšt=kard-an** "to arrest, to detain", and **bāz=dāšt=šod-an** "to become arrested". These CPs, in turn, can enter into derivational processes like participial adjective formation **bāz=dāšt=šod-e** "the arrested person". The latter can be further pluralized, **bāz=dāšt=šod-e-g-ān** "the arrested people", all properties of *morphological objects* and lexically derived compounds (Di Sciullo & Williams (DS&W) 1987).

1.2.2 Nominal PVs: These are probably the most diverse types of PVs that enter into CP-structures. Nominal PVs include simple, derived and compound nominals of Farsi origin; common and instrumental nominals; Arabic nominals and borrowings from the Arabic verbal paradigms, i.e., '**esme-masdar** "name of masdar", having lost their original verbal inflectional paradigms and being used as predicative nominals with a full-fledged argument structure, are abundant and make up the major body of PVs; recent borrowings from French and English; some idiomatic nominal expressions; and even the nominalizations of previously formed CPs (especially CPs formed with a full verb and its complement NP) are again used as PVs in new CPs formed with a LV in (1), (see Barjasteh 1983 for a detailed analysis of simple and derived nominals of Farsi origin that enter into CP-structures).

Some examples follow:

- | | | | |
|-----|--------------------|---------------------------|---------------------------|
| 11. | telefon=kard-an | telephone-DO-INF | to telephone ² |
| | violon=zad-an | violin=hit-INF | to play violin |
| | del-tang-i=kard-an | heart-tense(nostalgia)=do | to feel nostalgic |

² Notice that while the verb *telephone* in English selects an NP-complement, the CP **telefon=kardan** in MF can only take that argument as a PP. Thus note (i) and its English translation:

(i) man be Ali telefon=kard-am "I telephoned Ali/*to Ali."

kuh-navard-i kard-an ³	mountain-climbing=do-INF	to mountain climb
šafā=dād-an	cure=give-INF	to cure
čub=xord-an	stick=collide	to be punished

This process is highly productive, resulting in an abundance of CPs. There is a drift from using full verbs or CPs formed from full verbs to CPs formed from light hamkards in (1). Also notice (12):

- 12.a raft-o-'āmad=kard-an went-o-came=do-INF to pass, to go back and forth
 .b Piš-'āmad=kard-an⁴ front-came=do-INF to happen, to take place

Many such PVs are predicative with their own independent argument structure which they contribute to the argument structure of CPs. Most of the CPs in this group can further undergo other morphological formations, which confirms the status of this set of CPs as X⁰ morphological entities, as in *violon=zan-hā* "the violinists", *čub=xord-e* "the punished".

1.2.3 Adjective & Participial PVs: Adjectives used as PVs are mainly stage level predicates (Kratzer 1989) denoting a temporary trait of the NP they modify. The major hamkards used with these adjectives are *kard-an* and *šod-an* and their stylistic variants given in (1) above. Individual level adjectives do not in general enter into CP-structures with causative LVs since it is not possible under normal circumstances to change a permanent trait of an individual (cf. *Predicate Restriction* Milsark 1977). However, some individual level adjectives may form CPs with unaccusative hamkards such as *šod-an*, which are not very frequent, but still seem to be acceptable (13c). Past participles of simple verbs may be used as PVs as well. Some examples in the form of CP-INFs follow:

³ The PV *kuh-navard-i* "mountain-climbing" is itself a deverbal nominal derived from the CP *kuh=navardid-an* "to mountain-climb". The latter is more formal than the CP with *kard-an*.

⁴ *Raft-o-'āmad* is a compound, consisting of two past verb stems, and is nominalized by the infix *-o-*. It is used as the PV of a new CP (12a). *Piš-'āmad-an* "to happen, to come forward" is an independent CP, and its nominalized form *piš-'āmad* "happening", is used as the PV to form the CP (12b).

13.a	'āšoft-e=kard-an	agitated.prt=do-INF	to make agitated
	'āšoft-e=šod-an	agitated.prt=become-INF	to become agitated
b	sard=kard-an	cold=do-INF	to make cold
	sard=šod-an	cold=become-INF	to become cold
c	*'āqel=kard-an	wise=do-INF	to make wise
	'āqel=šod-an	wise=become-INF	to become wise

Most of these CPs enter into synthetic derivational, and inflectional processes, i.e., **sard=kon-ande** "cooler" (13b), further confirming that these CPs must be credited as *morphological objects* as well.

1.2.4 Prepositional Phrases (PP) as PVs: Some of the hamkards/verbs in CP-structure exclusively subcategorize for PPs as their internal complements, as in (14), given in the form of CP-INFs:

14.a	'az dast=dād-an	from hand give-INF	to lose
	'az dast=raft-an	from hand go-INF	to become lost
b	'az xod=gozašt-an	from self=pass-INF	to self-sacrifice
	'az kār='oftād-an	from work=fall-INF	to become disabled

I argue that these CP-INFs also count as X^0 categories like other CP-INFs. They may enter into other morphological processes as in **'az dast=raft-e-gān** "the lost ones, the dead" (14a), **'az xod=gozašt-e-gān** "the self-sacrificing people" (14b), **'az kār='oftād-e-gān** "the disabled" (14b), with the plural suffix **-(g-)ān** added to the already derived adjectival participles of the CPs ending in **-e**.

1.3 CPs as Morphological Objects & Their Lexical Structure as Masdars

Similar to simple verbal predicates, all entries for the CPs are normally cited in masdar or infinitive forms. Masdars are nominalization of simple or compound verbal stems, and are formed by affixing the nominalizing suffix **-an**, to the past stem of the verb, e.g. **did-an** "to see", and **xāb=did-an** "sleep=see; to dream", **raft-an** "to go", **bālā=raft-an** "up=go; to go up, to climb". Masdars or infinitives are equivalent to *V-ing* gerunds of English with the external distribution, function, and properties of nouns and internal behaviour of verbs (Baker 1985, Roeper 1988). Like all nouns in MF,

masdars may take their nominal and adjectival complements and modifiers to the right, followed by the Ezāfe morpheme. Similar to finite verbs, masdars may take their nominal complements and direct objects (DO) to the left, which may be followed by the specificity/or strong objective case marker *rā* in MF. That is, like English gerunds, masdars of MF have a non-finite clausal structure (cf. Baker 1985, Wasow & Roeper 1972, Roeper 1988a, 1988b, Fabb 1984). Similar deverbal nominals, with dual function, seem to exist in many languages (see also Cowper 1991, 1992; Zubizarreta & Haafien 1988; Butt 1993; and Ramchand 1993).

Masdars/infinitives indicate the action, event, and state denoted by the verb. They seem to have a listed sense in the mental lexicon (of native speakers). I take simple infinitive and CP-INF forms as having undergone one stage of derivational morphological process by addition of *-an* to the past stem of the simple or compound verbs. That is, simple and compound infinitives/masdars are derived deverbal nouns, and count as the representative of verbal predicates in Persian like bare infinitives in English.

Contrary to the English CPs (in the glosses below) that are discontinuous, CP-INFinitives in MF are continuous units, and behave as single phonological words in that the CP-INFs in (15) carry a single word stress which falls on the PV. The infinitive/masdar forms of CPs count as morphological objects (see Di Sciullo & Williams 1987) in that they behave like single, simple nouns/words and show syntactic atomicity. Nothing can intervene between their elements, and their internal structure is opaque in syntax. Like simple nominal heads, CP-INFs (and other morphological derivations of CPs) may appear in the subject (15a), DO (15c), object of a preposition (15b) and the other positions sanctioned for simple lexical nouns, i.e., syntactic positions where heads, X^0 , project to XP levels.

- 15.a **bus=kard-an / (busid-an)** nešāne-y-e mohabbat 'ast
 kiss-do-INF / (kiss-INF) sign-EZ kindness is
 Kissing is a sign of affection.
- .b mo'allemīn bāyad 'az čub=zad-an-e bačče-hā xod-dāri kon-and
 teachers must from stick=beat-INF-EZ children self-have do-3PL
 The teachers must abstain from punishing/beating kids.
- .c Mehri qazā=poxt-an ro dust=na-dār-e
 Mehri food=cook-INF RA love=NEG-have-3S
 Mehri does not like cooking.

CP-INFs, and other morphological derivations of CPs, count as syntactic atoms and the whole domain of the CP/compound exhibits Anaphoric Island Constraint (Postal 1969) in that the PVs are non-referential and may not have an anaphoric relationship to the elements outside the compound. Thus in (16) (the equivalent of (15c)) and (17) the nominal PVs of the CP-INFs are inaccessible to anaphoric relations:

16. *Mehri qazā_i=poxt-an ro dust=na-dār-e vali Amir 'un_i=poxt-an ro dust=dār-e
 Mehri food=cook-INF RA love=NEG-have-3S but Amir it=cook RA love=have-3S
 Mehri does not like cooking, but Amir likes it-cook.
17. *man 'az sigār_i=kešid-an bad-am mi- yā-d, va hargez 'un_i-(o)=ne-mi-keš-am
 I from cigar=smoke-INF bad-my IND-come-3S and never that-(RA) NEG-IND- smoke-1S
 I do not like smoking cigarettes and will never smoke them.

One may conclude with Sproat (1988) that anaphoric relation is a property of maximal projections and the PVs in the above CPs being X⁰ level items are excluded from entering into anaphoric relations. If Shibatani & Kageyama (1988: 474) are correct in claiming that the Anaphoric Island Constraint is "not a constraint on words in general, but only on lexically derived words" then (16-17) show that CP-INFs (and other derivations formed from CPs through affixation) have the property of lexically derived words.

A stronger version of the anaphoric island constraint known as the Lexical Integrity

Hypothesis, which may itself be subsumed under the bracketing erasure convention (Kiparsky 1982, 1983; Sproat 1985, 1988; Shibatani & Kageyama 1988) inhibits syntactic processes and inflectional affixes/items from intervening into the internal structure of (simple or compound) words. The nominal element of a CP-INF or other morphologically-derived compounds from the CPs may not be pluralized as in (18):

- 18.a Amir 'az ketāb=xānd-an xaste ne-mi-š-e
 Amir from book=read-INF tired NEG-IND-become-3S
 Amir does not become tired of reading books (/studying).
- b *Amir 'az ketāb-hā=xānd-an xaste ne-mi-š-e
 Amir from book-PL=read-INF tired NEG-IND-become-3S
 Amir does not become tired of reading books (/studying).

In sum, masdars ending in **-an** are deverbal nominals having undergone one level of derivational morphology and have a listed lexical status. Any simple or complex verbal predicate in MF can/must be representable by a masdar ending in **-an**. I argue that a true CP is formed only if a nominalized CP-INF is potentially available which can function like a simple deverbal infinitive as in **david-an** "to run" vs **do(w)=kard-an** "to run", and exhibits properties in (15-18). Masdars/CP-INFs count as complex event nominals (Grimshaw 1990) and have their own event and argument structure. They function as syntactic atoms respecting the Lexical Integrity Hypothesis. No syntactic rule/element can manipulate or analyze the contents and elements of a CP-INF, an X^0 category, and change its argument structure, i.e., a property attested of morphological objects (Di Sciullo & Williams 1987).

1.3.5 Summary: Almost all types of CPs undergo extensive morphological derivations and inflections like deverbal nominalization, adjectivization, pluralization, and CP-INF forms. That is, they show properties of *morphological objects* and synthetic compounds formed in the lexical component. All

types of PVs count as subcategorized internal complements of the LVs. The results of the observations in this section indicate that the dominating heads of the CPs seem to have a structure as $[_{V^0} X^0 + V^0]$.

I assume that all derivational and inflectional formations (of the CPs) take place in the morphological and/or lexical structure, which incorporates many syntactic principles into the morphological and lexical domain as in the theory of Hale & Keyser (1991, 1993). In particular, I assume that morphological formation of CPs can and may occur after their syntactic derivation. We will notice in § 1.4 that CPs in their primary function as the finite predicates of clauses show properties that directly contradict and violate syntactic atomicity, and wordhood attested to CPs in this section.

1.4 Syntactic Properties of CPs

The major function of CPs is to act as finite verbal predicates of tense clauses. This section addresses the distributional and syntactic behaviour of finite CPs and their elements in tensed clauses. In § 1.3, we observed that CPs undergo extensive morphological processes and count as X^0 *morphological objects*. However, when CPs are used in their primary functions as the finite verbal predicates of clauses in computational syntactic derivation, they clearly show properties opposite to the above observations and violate the syntactic atomicity of CPs as morphological objects.

PVs are freely separable from the hamkards in syntax. Separability of the elements of CPs on the one hand, and their interaction with derivational and inflectional processes, on the other, present the grammatical theory with a serious dilemma. Are CPs formed in the lexicon or in syntax? Are they X^0 lexical heads or $X^{\max}$ phrases? Analyses in favour of either domain is then confronted with serious

counter examples from the other.

The degree of (in)separability of the PVs from the hamkards has been used as the criteria for classifying CPs in MF into three different types of true vs. pseudo compounds and verb phrases. Moyne (1970), mainly on the basis of the separability of the PVs from the hamkards and the potential of the compound verbs to take a DO, divides the CPs into three types: (true) compound verbs, verbal phrases, and pseudo-compounds. Similarly, Karimi (1987) divides CPs into the same three types based on separability and gapping.

The elements of CPs as the main, finite predicates of tensed clauses, are freely separable from each other. The PVs (depending on their types) can be modified, take specifiers, be relativized to a limited degree, be topicalized. Syntactic inflectional elements like the indicative/progressive, negation, and imperatives and subjunctive affixes as well as finite modal-like verbal units can intervene between the elements of CPs. It becomes evident that a thorough theory should also take care of the syntactic properties of finite CPs that contradicts their wordhood in § 1.3. I believe that the classification of compound verbs based on separability of their elements, the ability of the compound verbs to take a DO (cf. Moyne 1970), degree of semantic transparency, as well as gapping cannot be maintained (Sadeghi & 'Arjang 1980). I will then make some preliminary suggestions to account for this dichotomy in behaviour which will be further developed in chapters 2-3.

1.4.1 Inflectional Prefixes of Verbs: The verbal negative prefix **ná-** or **né-**, the imperative and subjunctive prefix **bé-**, the present indicative (or progressive) prefix **mí-**, and the (formal) negative imperative prefix **má-** attach directly to the simple verbal stems and attract the stress of the finite verbs (19b). In the absence of these prefixes stress normally falls on the syllable immediately preceding the person agreement endings as in (19a) (Ferguson 1957):

- 19.a man tup rā geréft-am
 I ball RA get.ps-1S "I caught the ball."
- .b man tup rā ná-gereft-am
 I ball RA NEG-catch.ps-1S "I did not catch the ball."
- .c māšin Ali rā zír=**na-gereft**
 car Ali RA under=NEG-caught.ps.3S
 The car did not run over/collided with Ali.

In (19c) the PV, **zír** "under", has attracted the stress which normally falls on the negative prefix **na-** (19b). Adverbial PVs make the closest morphological and phonological ties with the hamkards. Intervention of the prefix **na-** between the adverbial PV and the hamkard in the finite CP (19c) indicates that syntactic atomicity, and morphological wordhood attested to CP-INFs is violated. This is true for the CPs with other types of PVs as well.

1.4.2 Modal Auxiliaries: The modal-like auxiliary of the future tense, **xāst-an** "want", subcategorizes for a VP-complement and incorporates the lower verb stem as in (20). It separates all PVs from the hamkards as in (21) with the CP **zamin=xord-an** "to fall down".

20. Morad qazā rā **xāh-ad** xord
 Morad food-RA will-3S eat.ps "Morad will eat the food."
- 21.a Morad **zamin** **xord**
 Morad earth/ground hit.3S "Morad fell down."
- .b Morad **zamin** **xāh-ad** **xord**
 Morad earth/ground will.3S hit.ps "Morad will fall down."

Xāh-ad is a free, independently-inflected syntactic unit. One cannot claim that the complexes **zamin xāh-ad xord** and **xāh-ad xord** in (21b) and (20) are inserted as single lexically-formed items in syntax. **Zamin xāh-ad xord** (21b) consists of three free, independent syntactic units, and is not a single inflected complex.

1.4.3 Progressive Modal: Similarly the progressive use of the verb **dāštan** "to have", and the modal-like verb **tavānest-an** (tunest-an) "to be able" which selects a subjunctive IP-complement show that the two elements of CPs are separable in finite clauses. Here both the higher and the lower verbs have independent tense, and agreement endings and the higher verbs do not incorporate the lower simple verbs, contrary to the modal-like auxiliary **xāst-an** in §1.4.2. The normal position for these finite modal-like items is before the CP as in (22a). The separated PVs in (22b-c & 23) have a topicalized reading.

- 22.a 'unhā dār-an(d) raqs mi-kon-an(d)
 they have(PRG)-3PL dance IND-do-3PL "They are dancing."
- .b 'unhā raqs dār-an(d) mi-kon-an(d)
 they dance have(PRG)-3PL IND-do-3PL "They are dancing."
- .c 'unhā raqs mi-tun-an(d) bo-kon-an(d)
 they dance IND-can-3PL SUJ-do-3PL "They can dance."

The CP **zamin=xord-an** "fall down", a true compound verb in Moyne (1970), is also separable:

23. Morad zamin dāšt mi-xord ke man gereft-am-eš
 Morad earth have(PRG)-3S IND-hit-3S that I caught-1S-him
 I caught Morad when he was falling down.

That adverbial PVs cannot normally be separated by these two verbs should probably follow from the fact that they are not independent semantic units and hence cannot be topicalized. Yet not all adverbial PVs are bad when separated.

24. qeymat-hā pā'in dār-an(d) mi-'ā-an(d)
 price-PL down have(PRG)-3PL IND-come-3PL "The prices are decreasing."

1.4.4 Objective Pronominal Clitics may also intervene in the CPs. Pronominal clitics may function as possessive pronouns, complement of a preposition or may optionally cliticize onto the verb in the presence of a DO, or they obligatorily do so in the absence of DOs with transitive verbs as in (25).

- 25.a (Ali-ro) zad-am-eš
 Ali-RA hit-1S-him "I beat him (/Ali)."
- .b (Ali-ro) čub-eš=zad-am
 Ali-RA stick-him hit-1S "I punished him (/Ali)."
- .c (Ali-ro) čub=zad-am-eš
 Ali-RA stick=hit-1S-him "I punished him (/Ali)."

According to Khanlari (1979: 254), "in modern Persian the former [25b] is more current and popular than the latter [25c] which is a bit archaic". This is interesting in that a syntactic element, the clitic -eš, seems to have intervened in the internal structure of a seemingly morphological object, CP, which appeared to exhibit syntactic atomicity in §1.3 (cf. Ghomeshi & Massam 1994; Goldberg 1995).

1.4.5 Modification: PVs may be separated from the hamkards by taking modifiers (and specifiers). However, the variations and discrepancies that might arise are due to the properties of the PVs themselves. Adverbial PVs are less likely to have modifiers or specifiers (even when they are free forms). Moyne (1970:63) classifies the CP **zamin=xord-an** as a true compound verb claiming that it cannot be separated. However, this is not true since the PV can take both a specifier and a modifier showing that it has an $X^{\max}$ status as in (26) from Karimi (1987):

26. yek zamin-e saxt-i xord-am
 one ground-EZ hard-indf collide-1S "I fell down severely."

1.4.6 PP or NP Complements of Predicative of the nominal PVs may intervene between the two elements of CPs as in (27-29).

- 27 'unhā 'az Amir be-garmi 'esteqbāl kard-and
 they from Amir with-warmness welcome did-3PL
 They gave Amir a warm welcome.
- 28 'unhā 'esteqbāl-e garmi 'az Amir kard-and
 they welcome warm from Amir did-3PL
 They gave Amir a warm welcome.

- 29.a Hasan dar naql-e in dāstān 'eštebāh kard
 Hasan in telling-Ez this story mistake make.ps.3S
 In telling this story, Hasan made a mistake.
- b Hasan 'eštebāh-āt-e farāvāni dar naql-e in dāstān kard
 Hasan mistake-PL-EZ many in telling-EZ this story made.ps.3S
 Hasan made many errors in telling this story.

(29) from Heny & Samiiian (1992) also shows that the nominal PV may be pluralized, modified and take its PP complements within its projection indicating that the PVs in (27-29) are X^{max} s.

1.4.7 Relativization of adverbial, adjectival, and PP PVs is not acceptable. Nominal PVs with LVs may be relativized to a limited degree while those with full verbs may do so more freely. Notice (30b-31b) where the PVs are relativized, (adopted from Bashiri 1973:151, his 6):

- 30.a Man qazā xord-am
 I food eat.ps.1S "I ate (food)."
- b 'agar qazā-'i rā ke man xord-am to mi-xord-i mi-mord-i
 if food-Indf RA that I eat.ps-1S you IND-eat-2S IND-die-2S
 If you ate the food that I ate, you would die.
- c Man qazā rā xord-am
 I food RA eat.ps.1S "I ate the food."
- 31.a man zamin xord-am
 I ground collide-1S "I fell down."
- b 'agar zamin-i rā ke man xord-am to mi-xord-i mi-mord-i
 If ground-Indf RA that I hit-1S you IND-hit-2S IND-die-2S
 If you fell down the way I did, you would die.
- c *man zamin rā xord-am
 I ground RA collide-1S "(Lit. I ate the ground.)"

In spite of surface similarity, (30) contains an instance of a full thematic verb while (31) contains a LV. The PVs in (30a-31a) must be bare, indefinite, non-specific (weak) nouns in order to form a CP. (30b-31b) show that when relativized, the PVs convert to indefinite but specific (strong) nouns and

hence are followed by (the specificity, and strong object case) marker *rā*. The relativized PVs in both (30b-31b) are gapped which further confirms their maximal NP status.

Moyne (1970: 49) claims that PVs of true compound verbs cannot be followed by the DO marker *rā*. **Zamin=xord-an** "to fall down" in (31b) is a true compound verb in his analysis, and its PV is followed by *rā*. However, impossibility of the occurrence of *rā* with the same PV, **zamin**, in (31c) is on par with Moyne's analysis. (31c) is illicit since the PV, **zamin** "ground", is used as a strong, specific DO for the LV. It has an emphatic intonation and reading. However, (30c) shows that the nominal PV of a CP with a full verb may be specified and followed by *rā* (see also § 1.4.8)⁵.

In spite of the grammaticality of relativization in (31b), nominal PVs forming CPs with LVs do not in general form good, unmarked relativized phrases as opposed to nominal PVs of full thematic verbs which do so freely (30b). This is due to the semantic difference the PVs with LVs seem to have from the PVs of full, thematic verbs (see chapters 2-3). Both PVs seem to act as X^{max} s.

1.4.8 PVs as Specified DOs: Generally, nominal PVs in CP-structures count as direct internal complements, or objects, for the LVs. We saw in §1.4.7 that nominal PVs forming CPs with LVs cannot in general be turned into specific DOs and be followed by the specific object/strong objective case marker *rā* (31c), while this is perfectly acceptable and in fact the norm for the CPs formed with full verbs (30c). However, as we note from (31b) above, (32-33), a pseudo-compound for Moyne

⁵ First note that the occurrence of *rā* after the relativized PVs in both (30b) & (31b) is optional, and these sentences are perfectly fine without *rā* to my intuition. However, (31b) still contradicts Moyne's claim in that **zamin=xord-an**, a true compound verb, should not be separable or relativizable. Second, it seems to me that **zamin** in (31b-c) is not the DO of the unaccusative LV **xord-an**, rather it is semantically the goal of contact. An unaccusative verb should not be able to license the occurrence of *rā* after a strong object. (31a) has another variant with a preposition:

(i) man be **zamin=xord-an**
 1 to ground hit.ps-1S "I fell down. (Lit. I hit to the ground.)"

(1970), and (35), (rare) cases of PVs followed by *rā* are still possible with LVs. In such cases, the PVs are turned into strong DOs for the LVs, with an emphatic intonation, a separate, independent stress, and a marked, emphatic reading.

32. ***talāš-ro** **kard-am**
 struggle-RA do.ps-1S "I made the attempt."

33. Hame-y-e **talāš-am-ro** **kard-am**
 all-EZ struggle-my-RA do.ps-1S "I did my best."

(32) shows that the PV, **talāš* "attempt", may not be specified under normal conditions and may not function as a strong DO even though it counts as the object for the transitive LV. In (33), where a possessive pronominal clitic has cliticized onto the PV (cf. the discussion in §1.4.4), the PV is specified so that *PV+clitic* functions as a strong DO and is followed by *rā*.

Notice (34a-b) below where the nominal PV is the sole complement of the transitive LV **kard-an**. The NP complement may not, normally, be specified and be followed by *rā*, (34b). However, this is possible when we place more emphasis on the PV by using an adverbial like *bel-axare* "at last", and the possessive clitic, *-at* "your", which further specify the nominal PV making it function as an specific DO in (35)⁶.

34.a Mehri **gerye** **kard**
 Mehri weep did.3S "Mehri wept."

.b ***Mehri** **gerye-ro** **kard**
 Mehri weep-RA do.ps.3S "Mehri wept. Mehri did the weeping."

35 **bel-'axare** **gery-at-o** **kard-i**
 at last weep-your-RA do.ps.2S
 You wept at last. (You could not keep yourself from crying. (Lit. You did your crying at last.))

⁶ Examples (33 & 35) are very rare and simply emphasize and refer to a specific action denoted by the predicative PV. The norm is that PVs with LVs may not be specified and receive specific object/case marker, *rā*, as in (31c), (32 & 34b).

When the hamkard is a full, thematic transitive verb, the nominal PVs always have the option of being specific and being followed by *rā* as in (30c) and (36a) without having to be emphasized:

- 36.a Mehri *lebās rā puš-id*
Mehri clothes-RA wear-3S "Mehri put on the dress."
- .b Mehri *lebās puš-id*
Mehri clothes wear-3S "Mehri got dressed."

I argue (in chapters 2-3) that LVs are obligatory definiteness Effect (DE-) verbs while full verbs only optionally function as DE-verbs. However, both LVs and full, thematic verbs take a (bare) weak, non-specific (*predicative*) complement in CP-structures.

1.4.9 Word Order, Scrambling and CPs: The basic, canonical word order in MF is SOV as shown in (37) (Karimi 1989, 1994; Vahedi 1994).

37 (S) (PP) (O) V

However, MF is known to be a free word-order language in that it allows several different orders of the main constituents of the clause. DOs are marked for specificity in MF and are followed by the specific, and oblique case marker *rā* (Karimi 1989, 1990). Specific DOs can freely scramble around while non-specific NPs strongly tend to remain adjacent to the verb (Karimi 1989, 1994); Browning & Karimi 1991; Vahedi 1994; see also Mahajan 1990, 1992 for Hindi; Diesing & Jelinek 1993 for Egyptian Arabic and Dutch; de Hoop 1992, among many others.)

Karimi (1994) argues that movement of non-specific DOs is possible only if it serves discourse functions like topicalization, focus, question function, etc as we see in (38):

- 38.a *pirhan, Sepide diruz barā to t_i xarid* (Karimi 1989:142, (29-30))
shirt Sepide yesterday for you bought
Shirts Sepide bought for you, yesterday.

- .b ketāb_i Sepide barā to t_i xarid
 book Sepide for you bought
 Sepide bought BOOKS for you.

She argues that the bare object can be separated from the verb if it is topicalized (38a) or bears contrastive stress (38b). "The occurrence of the bare direct object in any position not adjacent to the verb results in an ill-formed string if it does not bear a discourse function of some sort." That is, both (38a)-(38b) would be ill-formed given an "unmarked intonation and unmarked interpretation".

However, (specific) subjects, PPs, and specific DOs+*rā* scramble more freely within and outside the clause. These phrases may be re-ordered both in preverbal positions and may also be postposed to the Post-verbal position as we note in (39) with respect to DO in (38):

- 39.a Sepide pirhan-o barā to t xarid
 shirt Sepide-RA for you bought "Sepide bought the shirt for you."
- .b pirhan-o Sepide barā to t xarid
 shirt Sepide for you bought
- .c Sepide barā to t xarid pirhan-o
 Sepide for you bought

The re-orderings in (39) are possible for the subject and the PP both in main and subordinate clauses (Karimi 1994). As the trace, *t*, in (39) indicates, it is assumed that the DO is base-generated in the VP-internal object position and then scrambles around. However, the movement of the DO+*rā* in (39), contrary to the movement of the weak, non-specific DO in (38), is quite normal, frequent, and does not lead to any particular intonation or shift in emphasis and interpretation.

Browning & Karimi (1991), and Vahedi (1994) distinguish between scrambling and topicalization in MF. They recognize three types of scrambling for strong, specific DOs (true arguments) in MF namely: (1) object shift to a position outside VP but within IP as in (39a), (2)

scrambling to IP-adjoined position, (39b), and (3) long-distance scrambling. They show that specific NPs, and PPs (real arguments) may scramble freely and form either A-chains or $\bar{A}$ -chains and interact with the different diagnostics for argument movement, i.e., A- or $\bar{A}$ -movement, like binding anaphors, and pronominal (clitics), inducing or mitigating WCO, and licensing or not licensing parasitic gaps (PG) depending on whether they undergo local or long-distance scrambling. Movement of weak, non-specific DOs/NPs, on the other hand, does not interact with any of these diagnostics of scrambling. Browning & Karimi (1992) and Vahedi (1994) conclude that this behaviour cannot be attributed to the properties of the landing sites of movement as is standardly assumed in the Government & Binding Theory (cf. Mahajan 1990; Webelhuth 1989; Deprez 1989; and Saito 1992), rather it is due to the inherent properties of these NPs which distinguish them from scrambling of specific (true) arguments, i.e., they are predicates and non-referential. Notice (40) from Browning & Karimi (1992: 13, their (47b, 48b-c)):

- 40.a Man in ketāb-rā [qabl az in-ke PG be-xānam] fekr-kard-am ke Ali t nevešte
 I this book RA [before this-that SUB-read.1S think-1S that Ali write 3S
 Before I read--, I thought that Ali wrote this book.
- .b *Ali yek ketāb [ba'daz in-ke PG xānd] be man dād
 Ali one book after from this-that read-3S to me give-3S
- .c *Man yek ketāb [qabl az in-ke PG bexānam] fekr mi-konam
 I one book before from this-that read-1S think-1S
 ke yek adam-e xub t nevešte
 that one person-EZ good write-3S
 Before reading --, I think that a good person has written a book.

In (40a) the strong DO after undergoing long-distance scrambling can license the parasitic gap in the upper clause, while the weak DO after local movement within IP in (40b) and long-distance movement (40c) cannot do so. Browning & Karimi (1991) attribute the ungrammaticality of (40b-c)

to semantic property of the DO, i.e., non-specificity, and weakness of the DO, and not the properties of the landing site which seems to be identical to (40a)⁷. Karimi (1994) also attributes the movement of the DO+rā in (38) to specificity of the DO, and not to case.

Word order is directly relevant to the analysis of CPs in that nominal PVs in CP-structures are always indefinite, weak NPs/XPs, with an existential interpretation. They strongly tend to stay adjacent to the LVs, and make a complex verbal predicate with them. Similarly, bare, non-specific objects strongly tend to stay adjacent to the verb of the clause and convey an existential, weak reading (38). I argue that these are one and the same phenomena. Non-specificity, and weakness of a (bare) NP in object position of a verb directly contributes to the interpretation of that NP as a predicative phrase which then leads to formation of a phrasal complex predicate with the verb of the clause. Thus, in (38) the non-specific DOs may form CPs with the transitive verb **xarid-an** "to buy" if they remain in their base position adjacent to the verbs resulting in CP-INFs, e.g., **ketāb=xarid-an** "to book-buy" and **pirhan=xarid-an** "to shirt-buy".

As argued in Diesing (1992), Diesing and Jelinek (1993) a definite object must move out of VP in order to take wide scope. Strong objects, DOs+rā, move out of the scope of VP because otherwise they would be closed by the existential closure operator within the Nuclear Scope (VP), and this is incompatible with the strong, presuppositional reading of specific objects. Diesing & Jelinek (1993) argue that scrambling of the strong, definite NPs out of VP is triggered by presuppositionality (see also Vahedi 1994 for a similar argument with regard to MF). I assume that a strong object must move from its base position within VP to a position outside, i.e., adjoined to VP,

⁷ Notice that (40b-c) can also be asserted without the indefinite quantifier **yek** "one". The bare, non-specific object **ketāb** "book" would then count as the PV of the lexicalized CP **ketāb=xānd-an** "to read (-book)" at I-syntax. The same grammaticality judgement as in (40b-c) would still follow.

to take wide scope. *Rā* is the marker of a strong object with a presuppositional reading as well as the sign of strong objective case on an NP (see de Hoop 1992, and chapter 2)⁸. A weak, indefinite object remains within VP, and is closed with the default existential closure operator, and thus has an existential reading. Weak objects in this position function as *predicates*, as opposed to *arguments*, and form a phrasal CP with the verb (see chapters 2-3).

The unmarked position for the PVs is the closest syntactic position adjacent to the LVs. Due to their semantic properties, that of being substantive predicates, PVs must enter into the *closest possible syntactic relation*, i.e., predicate modification, with the hamkards. However, they may undergo movement, to a limited degree, within the VP-projection, to IP-adjoined position or even long-distance movement to the higher clause as in (41):

- 41.a **'ensāf** bāyad be-**d-i**
 fairness must SUJ-give-3S "You must be fair."
- .b **pas** be-h-et ne-mi-**d-am**
 back to-you NEG-IND-give-1S "I shall not give it back to you."
- .c **garm-eš** tu madrase mi-**kon-am**
 warm-it in school IND-do-1S "I will heat it up in school."

The bold items count as PV's for CPs in (41). These examples are odd, and are grammatical only with a marked intonation and stress on the fronted PVs and a marked discourse function like topicalization, contrastive topic or other discourse functions similar to (38) above (see also § 1.4.3).

Karimi (1989, 1994) proposes a rule of verb preposing that moves the head of the verb, *V*⁰, to COMP, as in (42):

⁸ In recent work, Ghomeshi (1996) also proposes that *rā* marks presuppositional object (DPs), and projects a Kase Phrase that assigns case to any presuppositional DP adjoined to VP.

42. gozāšt-i_i ru miz gol-hā-ro t_i (Karimi 1994: 64, (her 40))
put-you on table flower-PL-RA
Did you put the flowers on the table?

Applying this rule to the CPs, we notice that the head of the verb in the CPs cannot be moved to the COMP alone (43a), rather the whole PV+LV must be preposed, as in (43b). The observation indicates that the rule targets the whole CP which counts as a phrasal, V-bar constituent.

- 43.a *dād-i_i ketāb-o be Ali pas t_i
give.ps.2s book-RA to Ali
Did you give the book back to Ali?
- .b pas=dād-i_i ketāb-o be Ali t_i
back give.ps.2s book-RA to Ali
Did you give the book back to Ali?

In sum, word order and scrambling targets strong objects and complements. Strong, presuppositional objects behave as real arguments and move out of VP to take wide scope. Weak, existential objects and complements behave as non-arguments. They do not lend themselves to binding conditions, A- or $\bar{A}$ -chains and tend to remain within V-bar which then may lead to CP-formation.

1.4.10 Gapping and Coordination can also show whether or not the elements of a CP form a single morphological unit. If the elements of a CP cannot be separated by conjoining or ellipsis (gapping) this means that the two form one single morphological unit. If they can, then they count as two or more independent syntactic units. PVs in CPs in MF can in general be gapped as in (44):

- 44.a Mina 'az man 'ejāze gereft vali mahtab --- = na-gereft
Mina from me permission got.3S but Mahtab --- NEG-got.3S
Mina got permission from me but Mahtab did not.
- .b Mina saxt zamin xord vali mahtab --- = na-xord
Mina hard ground collide.ps.3S but Mahtab --- NEG-collide.ps.3S

Mina fell down severely but Mahtab did not⁹.

Conjoining offers better tests for separability and independence of the PVs from the hamkards.

Almost all PVs with the same hamkards can easily be coordinated (45a). The conjoined PVs can even be pluralized and modified (45b) further confirming their status as X^{MAX} s.

45.a te'dād-e 120 qāyeq towqif = ... va mosādere šod
 number-EZ 120 boat detention and confiscation become.ps.3S
 120 boats were detained and confiscated.

.b barā-y-e tahaqqoq-e in 'amr talāš-hā = ... va sarmāye-gozāri-hā-ye ziyādi kard-e-im
 for-EZ fulfilment-Ez this matter struggle-PL and investment-PL-EZ much do-ppr-1PL
 We have struggled and invested a lot to achieve this goal.

These results indicate that PVs, as maximal projections, show more syntactic independence than the verbal heads (hamkards) and are more likely to be gapped and conjoined. They also show that CPs are in fact syntactic formations, and violate syntactic atomicity attributed to CPs as morphological objects in § 1.3.

1.4.11 Passivization: Passivization however marks a sharper distinction between the CPs formed with LVs and those formed with full thematic verbs. The nominal PVs of the former cannot in general function as the subject of the passive CPs while the PVs of the latter do so freely. The passive auxiliary in MF is *šod-an* "to become", an inchoative LV. However, the inchoative (or passive) of the majority of transitive CPs, formed with a transitive LV, is formed by replacing the transitive LV

⁹ However, gapping of the verb gives some odd and sometimes unpredictable results. Note (ia) with different PVs but identical hamkards. However, if the gap is within the first CP, then the result improves (ib).

i.a *man be to 'etminān dār-am vali be Homa šak = ---
 I to you confidence have-1S but to Home suspicion
 I have confidence in you but I am suspicious to Homa.

i.b man be to 'etminān = --- vali be Homa šak dār-am
 I to you confidence but to Home suspicion have-1S
 I have confidence in you but I am suspicious of Homa.

In a CP formed from a full thematic verb and an indefinite PV, the PV may always undergo passivization and function as the subject of a corresponding passive sentence. Recall (36a-b) repeated as (48-49). The passive of (48-49) is (50):

- | | | | | | |
|-----|-------|----------|------------|---------|---------------------------|
| 48. | Mehri | lebās | rā | puš-id | |
| | Mehri | dress | RA | wear-3S | "Mehri put on the dress." |
| 49. | Mehri | lebās | puš-id | | |
| | Mehri | cloth | wear-ps.3S | | "Mehri got dressed." |
| 50. | lebās | puš-id-e | šod. | | |
| | cloth | wear-ppr | became.3S | | "The dress was put on." |

The subject of the passive sentence in (50) can be taken either as the nominal PV in (49) or the DO in (48). In fact, the semantic interpretation of the passive subject in (50) is that of a specific definite *dress*, as in (48), rather than an indefinite NP in (49). A passive structure like (50) with a similar interpretation is possible for all CPs formed with full thematic verbs¹⁰.

In sum, lack of passivization of the nominal PVs in CPs with LVs (1) shows that the nominal PVs are not true *arguments* and hence cannot function as subjects of corresponding passive sentences while the PVs of CPs with full, thematic verbs can function do so, albeit with a different semantic interpretation. The difference between the LVs and full verbs in CP-structures seems to be that of DE-verbs. LVs are obligatory DE-verbs while full verbs are only optionally so (see chapters 2-4-5).

1.4.12 Recursion and Double PVs: It is also possible to have more than one PV as the non-verbal element in CP structures. Compare (51) with (52) and (53) with (54):

¹⁰ I consider the passive form of any transitive verb, simple or compound, formed from the past-participle of the verb and the LV/or auxiliary *šod-an* "to become" as an instance of CP. I suggest that passives are formed according to the same principle as other CPs discussed in chapters (2-3). Thus *puš-id-e=šod-an* "to be dressed" in (50) is an instance of a CP formed with *šod-an*. Notice that word stress on the above passive CP, just like the other CPs, is on the ppr. Thus what is called passive of a (simple or compound) transitive verb is in fact a CP formed with the LV *šod-an* with an identical semantic, syntactic and lexical analysis (cf. Moyne 1970, 1974; Dabir-Moghaddam 1992a, 1985; Barjasteh 1983).

- 51.a 'ezhār=kard-an express=do-INF to express
 .b 'ezhār=šod-an express=become-INF to be expressed
- 52.a 'ezhār-e= nazar=kard-an express-EZ=opinion=do- to express one's opinion
 .b 'ezhār-e= 'alāqe=kard-an express-EZ=fondness=do- to express interest
- 53.a 'āšoft-e=kard-an agitated-PPT=do-INF to make agitated
 .b 'āšoft-e=šod-an agitated-PPT=become-INF to become agitated
- 54.a 'āšoft-e- xāter=kard-an agitated mind=do-INF to make agitated
 .b 'āšoft-e-xāter=šod-an agitated mind=become-INF to become agitated

Moyne (1970: 71) considers the CPs in (51) and (53) as cases of pseudo-compounds based on separability of the PVs and the LVs, as shown by the underlined items in (52) & (54). According to moyne (1970), in (54) *xāter* "mind" intervenes within the CP '*āšofte=kard* "to make agitated" (53).

Contrary to Moyne, we seem to have new CPs in (54), distinct from CPs in (53), made up from the independently available compound adjective '*āšofte-xāter* "disturb-minded" just like CPs with simple adjectives and *kard-an*, and *šod-an*.

The PV, '*ezhār* "expression" in (51), a transitive predicate nominal, has its own internal argument, i.e., the underlined nouns in (52). The internal arguments of '*ezhār* (the underlined nouns) occur within its projection (within V-bar) in (52), and the whole complex then functions as the PV of new CPs. This can be verified by the stress pattern that falls on the first PV in (52) that is '*ezhār*; nominalization process, i.e., infinitivization (52); agentive nominalization with *-ande* as in '*ezhār-e-nazar=kon-ande* "a person who expresses his opinion" with the suffix *-ande* added to the present stem. The latter can also be pluralized as '*ezhār-e-nazar=kon-ande-g-ān* "persons who express their points of view" (cf. 52a). The whole complex PVs in (52) & (54) act as independent, lexicalized compound nouns in MF.

There are also cases of recursion with respect to the verbal part of CPs. That is, an already

formed CP may come to function as a verbal head/hamkard and combine with nominal PVs to form new CPs. In fact this is a highly productive process with regard to the CP **peydā=kard-an** "visible=do-INF, to find". CPs with the hamkard **yāft-an** "to find" are abundant. However, all the PVs that form a CP with **yāft-an** may also form CPs with the already available CP **peydā=kard-an** with exactly identical meaning. The latter are more frequent and the former more formal and archaic:

- | | | | |
|------|----------------------|---------------------|-------------------|
| 55.a | nejāt=yāft-an | save find-INF | to be saved |
| .b | nejāt=peydā=kard-an | save visible do-INF | to be saved |
| 56.a | xāteme=yāft-an | end find-INF | to come to an end |
| .b | xāteme=peydā=kard-an | end appear do-INF | to come to an end |

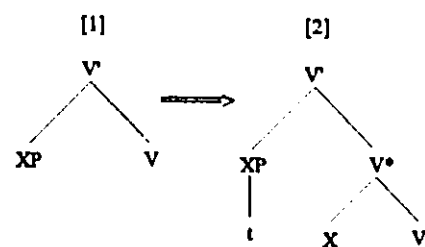
These CPs are very interesting in that we see two successive applications of CP-formation. The CP **peydā=kard-an** "to find" is a transitive CP. Now if its DO happens to be a weak, indefinite NP, then it can form a CP with its governing verbal head within V-bar, that happens to be a CP. Double CPs are formed just like other CPs (chapters 2-3), and no special new machinery is required to account for them.

1.4.13 Concluding Remarks and Section Summary: The distributional behaviour of the elements of the finite CPs in this section contradict those achieved in §1.3. The PVs and the resulting finite CPs seem to have phrasal properties and behave as phrasal units, XPs, and not as *morphological objects*. While the results of §1.3 indicates that CPs count as lexicalized units and must be credited with some type of lexical identity and representation since they can undergo different morphological derivations and function as X^0 items with a structure like $[_{V^0} X^0 + V^0]$, i.e., *morphological objects*.

The major function of CPs as the finite verbal predicates of clauses, in §1.4, indicates every property of syntactically-formed phrases, even though they still keep the semantic interpretation of the lexicalized CPs. They seem to be maximal projections like $[_V XP + V^0]$. Diagrams [1] and [2]

correspond to the structure of CPs in §1.4 and §1.3 respectively.

[1] counts as the basic, syntactic configuration of LVs/hamkards observed so far. The PV, a maximal projection XP, counts as the sole internal complement of a verbal head within V-bar. V-bar is the innermost, deepest level of the verbal projection as proposed by Larson (1988), and Hale & Keyser



(H&K) (1991, 1993). V-bar behaves as a *phrasal lexical integer* (Szabolsci 1984, 1986), or phrasal CPs, in the syntactic computational component. Chapters 2-3 explicate the semantic and syntactic properties of V-bar in MF.

I will argue that the head of PV in [1], a lexical head X^0 , conflates/incorporates into the verbal head, V^0 , at the lexical-syntactic level of morphological/argument structure, forming a complex verbal head as in [2]. The complex head then functions like a simple verbal stem, V^0 , in that it shows the wordhood properties, and syntactic atomicity we observed in §1.3 (see chapters 2-3 for detail).

Almost every V-bar in the syntactic component, [1], corresponds to a (potential) conflated verbal head, V^0 , in the lexical and/or morphological component, [2]. The two domains might be co-present (though more work need to be done), and show isomorphic syntactic configurations and relationships between the verbal heads and the PVs. The two levels are formed according to similar syntactic, X-bar principles (chapters 2-3). I argue that CP-formation in MF is a process from the syntactic component [1] to the lexical component [2], and not the other way round. That is, word-formation [2] may and can follow the syntactic derivation of CPs [1].

1.5 Grammatical Function & Argument Structure of CPs

An important question to address in the study of CPs is the status of the arguments of the CPs and the alignment of these arguments to grammatical functions (GF) in syntax. Are the arguments of the CPs provided by the (predicate nominal) PVs or the LVs, or both, and how are they distributed in the clause? (cf. Cattell 1984; Baker 1988; Grimshaw & Mester 1988; Mohanan 1990, 1995; Butt 1993; Alsina 1993; Jayaseelan 1988; Rosen 1989; Matsumoto 1992, among many others).

Grimshaw & Mester (1988) propose that arguments of the nominal PV are transferred to the incomplete, skeletal structure of the LV so that the LV also acquires theta-marking properties and in this way the PV is rendered to a (theta-marked) argument of the LV (see Matsumoto 1992 for a criticism of *argument transfer*). Cattell (1984), and Jayaseelan (1988) also employ the theta-criterion and theta-marking in order to account for the distribution of the arguments and GFs in CPs.

In this study, I try to dissociate the notion of theta-marking and theta-criterion from subcategorization frame of the LVs and the PVs. I utilize simply the latter to account for the number and distribution of arguments and GFs in CPs. The general idea is that all types of LVs (as well as full verbs) subcategorize for a *single complement* that is filled by the PV. The two form a joint syntactic and semantic projection within V-bar that inherits all the arguments of the PVs. The GF positions, in the tense clause, are provided by the LV, and the functional projections in the clause, but are deeply determined by their status within the PV.

PVs always count as (obligatory or optional) internal complements of the hamkards. A LV may only form a CP with its subcategorized internal argument(s) and never with an external one. That is, it is never the case that a "verb functionally composes with a predicate [PV] that is external to the projection of the verb" DS&W (1987:38). Thus notice:

- 57 Ali **gerye kard**
 Ali crying did.3S "Ali cried."
- 58 Ali **gerist**
 Ali cry.ps.3S "Ali cried."
- 59 *Ali ... kard
- 60.a Amir pul rā be Morad **pardāxt=kard.**
 Amir money RA to Morad payment(N)=did.3S
 Amir paid the money to Morad.
- .b Amir pul rā be Morad **pardāxt.**
 Amir money RA to Morad pay.ps.3S
 Amir paid the money to Morad.
- .c **Pardāxt-e** pul be morad tavassot-e Amir
 payment (N)-EZ money to morad by Amir
 Payment of money to Morad by Amir.

The transitive LV **kard-** selects the PV, **gerye** "crying", as its single complement/object in (57). It is ungrammatical without the PV (59). The nominal PV in (57) is associated with the simple unergative verb in (58). The PV in (57) and the verb stem in (58) are unergatives, and have no internal arguments, as a result the CP (57) is also unergative, monadic.

The same relation as in (59a), exists between the PV and the LV in (60a). The nominal PV in (60a) is associated with the transitive simple verb in (60b), and the nominal head in (60c). The DO and the PP of the verb in (60b), and the PV in (60c), are realized as the DO, and PP in the (60a) with the CP. The PV and the LV form a continuous, phonological word in Persian, and the DO, and PP are realized outside the CP.

(57-60) clearly show that the number of arguments and GFs in CPs with **kard-an** are determined by the PV only. This is further supported by the inchoative (unaccusative), passive of the CPs in (57-60):

- 61.a *Ali gerye šod
Ali crying became.3S
- .b * (tavasote Ali) gerye šod (cf. (57))
(by Ali) crying became.3S
62. pul (tavasote Amir) be Morad pardāxt šod (cf. (60a))
money (by Amir) to Morad payment became.3S
The money was paid to Morad (by Amir).

Šod-an "to become" is an unaccusative verb, also known as the passive auxiliary in Persian. In (61a), just like (57), the PV **gerye** counts as the internal complement of the LV. However, the external argument of the PV, **Ali** in (58), cannot function as the subject of an unaccusative/passive sentence (61a). Unaccusatives do not allow an external argument as their subject (61a). Thus, the (passive) clause (61b), remains without a subject and is rejected by the lack of predication (Rothstein 1983).

Now compare (62) with (60). The unaccusative **hamkard šod-an** takes the PV **pardāxt** "payment" as its sole complement within V-bar, (62). The PV, in (62), contributes all its internal arguments to the CP **pardāxt=šod-an**. Its PP-complement, **be Morad** "to Morad" in (60), counts as a PP of the CP in (62). The DO of the PV, **pul** "money" (60b-c), functions as the subject of the clause headed by the unaccusative (passive) CP **pardāxt=šod-an** "to be paid" in (62). Notice that the external argument of the PV, i.e., **Amir** in (60b-c), does not come into play and is optional in (62).

The status of the external argument is still a mystery. The transitive LVs in (57-60), **kard-an**, and the PVs in (57-62), **gerye** and **pardāxt**, provide an external argument (subject). The external argument, or subject, of the simple verb stem in (60b-c), i.e., **Amir**, also counts as the external argument, or subject, of the CP in (60a). However, it is not clear that **Amir** is contributed to the CP in (60a) by the PV only because the **hamkard kard-an** being a transitive verb must have had an external argument (subject) as well. I suggest that they share the same external arguments which are

in fact identical and co-indexed with each other. I argue that in analyzing the status and distribution of the arguments of the LVs and those of the PVs, no mention need be made of the status of external arguments. External arguments are not part of the argument structure of (light) verbs, PVs, and CPs¹¹ (H&K 1991, 1993; Maratnz 1984.)

Thus, in CPs with **kard-an**, and in CPs with its inchoative, unaccusative counterpart, **šod-an**, the argument array is determined by the PV only. The GFs are also (underlying) determined by the PV, and by the functional projections in the clause. In the case of unaccusative LVs, **šod-an** in (61-62), the object of the PVs function as the subject of the corresponding CPs in (61-62). However, they still count as the underlying object of the CP. The same is true for all the CPs formed with other LVs in Persian.

In sum, all LVs subcategorize for a single internal complement, i.e., the *single complement hypothesis* (Larson 1988) which is filled by the PVs. The GFs are always determined by the PVs or by INFL in the case of subject (see chapters 2-3-4.) External arguments are redundant, and are external to verbs and predicative PVs. Their distribution and function do not come into play in CP-formation. The LVs do not contribute any internal arguments (DO, or IO (PP), to the resulting CPs.

¹¹ Cattell (1984:53) pays no attention to the status of the external argument (subject) that the PV contributes to CPs claiming "for present purposes we will concentrate on items in the verb phrase." Jayaseelan (1988) who tries to identify and promote the arguments/theta-roles of the PVs with those of the LVs, ends up identifying the agent roles of the LVs with the agent roles of the PV in all the cases, a redundant operation.

In fact, as a surface descriptive fact, there is no case where a CP is formed and the external argument of the PV is not identical with the external argument of the LV (see Mohanan 1990:218 for Hindi; Butt 1993 for Urdu, Cattell 1984 for English). If the external arguments of the two are not identical, as is the case for unaccusative LVs (that do not contribute and accept an external argument) then the external argument of the PV does not count as the argument of the resulting CP (as in (61-62) above). The subjects of adjectival small clauses and subject of (interrelational) prepositions do not count as true external arguments (see chapter 3, section 2 for detail).

1.6 Grammatical Theory and the Lexical Component

I adopt the general principles of the Government and Binding Theory (GB) (Chomsky 1981, 1986), the Principles and Parameters Theory (Chomsky & Lasnik 1991) for the most part. I also assume that the interface levels Deep Structure and Surface Structure in the standard GB theory are superfluous and irrelevant to the derivation of grammatical representations, mainly due to the dubious nature of the theta-criterion and the Projection Principle (Chomsky 1993, 1994). I assume that the grammar is made up of a syntactic, computational component that draws from the lexical component at different stages of syntactic derivation to form structures determined according to the core syntactic, X-bar theory and UG.

I take the lexical component as a highly organized and restrained level of semantic, lexical, and phonological information and structure. In particular, I assume that the lexical component is composed of Lexical Conceptual Structure (LCS), a syntactic level of argument structure called Lexical Relational Structure (LRS) (as in [1]-[2]), and lexical phonological properties/formations, as well as the idio-syncratic properties of lexical items. I take the morphological structure or word-formation domain to be a sub-component of the LRS with syntactic, X-bar properties. Morphological word-formation builds on the basic syntactic structures of the LRS and the derivations formed from the LRS representations, [1-2]. LRS has syntactic, X-bar properties that reflect the categorial features of lexical items. The categorial features/properties of lexical items are assumed to be part of our intuitive, innate capacity of language and UG and hence is identical to the different levels of grammar like LRS, PF, LF and computational component or s-syntax (cf. Halle & Marantz 1993; H&K 1991, 1993; Chomsky 1993). That is, the basic X-bar, categorial features of the lexical items are isomorphic at all these levels. However, structures, and derivations may be built on them according

to rules and principles specified to each level (see chap 3.)

The lexical and/or morphological component is present parallel to, and stretches along the syntactic derivation so that multiple interactions between the two are possible (Parallel morphology of Borer 1988, 1991; and Jackendoff 1994). This theory allows word-formation to take place during and after the different stages of the syntactic derivations and computations, i.e., morphology after syntax. I do not specifically argue for *late insertion* (Hale and Marantz 1993, 1994.) However, the model adopted in this study allows syntactic structure to be carried down to a post-syntactic morphological structure.

1.7 Conclusion

I have tried to present a comprehensive, descriptive analysis of the surface syntactic and morphological properties of the CPs in MF. However, it is incumbent upon me to provide an explanatory analysis for the issues that arose in this chapter.

An explanatory analysis must account for the morphological properties of CPs observed in § 1.2, 1.3. I show that the behaviour of CPs as *morphological objects* follows from a syntactic level of argument and/or morphological structure in which the PVs, as the complements/objects of the LVs, conflate into the verbal heads, [2]. This leads to the lexicalization of CPs and their wordhood.

As for the phrasal structure of CPs as in [1] and § 1.4, I argue, in chapter 2, that LVs are Definiteness Effect verbs and impose an existential reading on their VP-internal complement position in that these complements must be obligatorily weak, indefinite, and have an existential reading. Indefinite NPs/XPs in existential constructions are semantically *predicates* as opposed to *arguments*. So, LVs must take a predicate XP as their sole complement in syntax, [1], and form a CP with them

within V-bar. V-bar is the innermost level of VP-projection (Larson 1988). V-bar behaves as a *phrasal lexical integer* (Szabolsci 1984, 1986) or a phrasal CP, §1.4. The main role of phrasal CPs is to function as the main predicates of finite clauses and their behaviour is subject to the *predication relation* (Rothstein 1983; Williams 1980; Higginbotham 1987) in syntax. The argument structure of the CPs is derived from their LRS representations in a straightforward manner .

CHAPTER II

Light Verbs as Existential Predicates Select Predicate XPs

2.0 Introduction

In this chapter I present a formal semantic analysis in order to account for the formation and the type of semantic relationship between the elements of CPs in MF. First, I present a definition of light verbs (LV). I argue that LVs are contentless, lacking non-logical *substance*, and only contain logical *substance* or *constants*. Thus, they trigger an existential reading and Definiteness Restriction (DR) on their VP-internal position. This means that their subcategorized internal complements (NP/XP) must be indefinite. I will then review the literature on Definiteness Effect (DE) and show that the DR can be subsumed under *predicate condition* that requires a predicate to satisfy its open positions. This leads to the conclusion that the predicate condition imposes a DR on the postverbal NP-position of the existential constructions, i.e., this position must be filled with *predicate* XPs with existential reading as opposed to *arguments*.

I will argue that the DE (and predicate condition) are not simply restrictions on the post verbal NPs of standard existential constructions, but rather are restrictions on the NP-in-VP position whenever the head of VP is light or its semantic, non-logical substance is backgrounded, regardless of whether the verb is transitive or intransitive. That is, LVs are treated as *bleached predicates of existence* and indefinites in their VP-internal positions behave as *predicates*. The two form a CP within V-bar that must then be saturated in syntax.

I will then show the relationship between case and interpretation of NPs, drawing from Belletti (1988), De Hoop (1991, 1992), and Jaeggli (1986). I argue that weak, indefinite NPs tend to remain within verb projection and convey an existential reading while strong, definite NPs move

out of VP to take wide scope (Diesing 1992). This difference is argued to be related to the type of case the NP receives (de Hoop 1992). I will apply these theories to the Persian data in each section.

2.1 Light Verbs (LV)

LVs are bleached, empty (fully or partially), and unspecified on the thematic tier (Jackendoff 1990), thus lacking the ability to predicate/denote a property/properties of individuals or entities. LVs cannot semantically select particular entities as their arguments and hence are not associated with fixed and particular thematic roles in the standard sense. Full, thematic verbs/predicates, on the other hand, are substantive and select some particular entities as their complements, and predicate some specified properties of the entities of which they are predicated in surface sentential syntax (s-syntax) in order to form a licit, meaningful proposition.

A full verb with open internal complement positions saturates or selects its internal arguments by assigning them theta-roles, forming a semantic/syntactic unit called a VP and then is predicated of a subject. However, LVs lack this property. They are devoid of substantive content, so they cannot be predicated of some particular entities. LVs do not select/subcategorize for particular, and specific complements since they lack the semantic substantive content to do so. They are unspecified with respect to semantic denotation and interpretation that a full, lexical verb contains. As a result they must be matched up with some substantive elements in order to make a full predicate or CP. Notice examples (1-2) from Cattell (1984), and the MF equivalents in (3-4):

- 1.a **Bill coughed.**
- .b **Bill gave a cough.**

- 2.a **Ken kissed Kathy.**
- .b **Ken gave Kathy a kiss.**

- 3.a ?Ali **sorf-id**¹
 Ali cough.ps-3S "Ali coughed"
- .b Ali **sorfe kard**
 Ali cough did.ps.3S "Ali gave a cough/coughed."
- 4.a Morad Mehri-ro **bus-id**
 Morad Mehri-RA kiss.ps-3S "Morad kissed Mehri."
- .b Morad Mehri-ro **bus=kard**
 Morad Mehri-RA kiss do.ps-3S "Morad gave Mehri a kiss/kissed Mehri."

Cattell (1984: 1) states that although there may be subtle differences in emphasis between each pair, they are very close to each other in meaning. The semantic content which is carried with the verbal stems in the (a) examples now seems to be carried by the predicative nominals in the (b) set. In the MF (b) examples, the whole complex verb phonologically carries one stress, on the nominal part, which is different from stress on the verbal stem alone, meaning that phonologically we have a single word stress, i.e., a *phonological word* which coincides with a syntactic, and semantic unit.

The verbal parts in the (b) examples hardly contribute any semantic content to the whole clause. All they do, as Cattell mentions, is indicate that a *verbal action occurred*. That is, the LV introduces/indicates, in a temporal setting, the occurrence of the event/action, or prevalence of the state denoted by the denotation of the predicative nominal or the PV. A situation which was non-existent before. The verb *give* in (1b-2b) does not even retain its logical content, or syntactic skeleton of *transference of an entity to somebody* (Jackendoff 1990). No transference of an object is involved in (1b-2b), as the use of the LV **kard-an** "to do" in the MF equivalent in (3b-4b), instead of the English *give*, might also indicate. Many of the English CPs formed with *give* have equivalent CPs with

¹The simple verbal stem in (3a), **sorfid** "coughed", is very odd, and old/archaic and is not acceptable any more, though is still intelligible.

the LVs **zad-an** "to hit", and **xord-an** "to collide" in MF so that a one-to-one correspondence between *give* in English and **kard-an** "to do" in MF is immediately rejected. The verb *give* in (1b) has not only lost its semantic content but also its syntactic (argument) structure/skeleton, that of a triadic verb. Its equivalence with *do* in MF further confirms that it has no such argument structure anymore.

It seems that the non-logical semantic substance and (logical content) argument structure of the predicative nominals have taken over the corresponding properties of the LVs. In (1a & 3a) where the simple verbal stems are intransitive the resulting CPs are also intransitive (1b & 3b), while in (2a & 4a) where the verbal stems are transitive, the resulting CPs are transitive as well (2b & 4b) in both languages, regardless of the semantic and structural properties of the LVs and/or their main verb counterparts.

In the (b) examples in (1-4) the action spelt out by the predicative nominal has been realized, or has come into being/existence which was not available before the subject initiated the event/action through the use of the LV. The denotation of the predicative nominals in the context of the CPs may be assimilated to an *instance* or *token* realization of a *type* or *event*.

The crucial point I would want to emphasize is that the predicate nominals in English CPs are always indefinite, and the same is true unexceptionally in MF where the nominal part is predicative, and indefinite. Use of a definite, or even an indefinite but referential predicative nominal leads to gross ungrammaticality of the resulting CPs in both languages. Predicative nominals involved in the formation of CPs must always be indefinite (see Cattell 1984; Mohanan 1994, 1995 for Hindi; Butt 1993 for Urdu; Ramchand 1994 for Bengali and Scottish Gaelic). This seems to be a universal property of CP-structures.

Mohanan (1994), citing from Masica (1976), defines the process of a verb becoming "light" as a "shift in the semantic center of gravity from the light verb to its host" so that the verbal elements of the CPs in Hindi undergo partial "grammaticalization" or "emptying" leading to an impoverished semantic structure. In Grimshaw and Mester (1988), the Japanese *suru* is defined as a thematically incomplete LV, so that it assigns no theta roles, i.e., *suru* is a LV whose argument structure and semantic content is skeletal/incomplete and empty. It must combine with a substantive, theta-assigning nominal in order to acquire theta-assigning property and thus form a full predicate or CP.

In Jespersen (1965:VI:117-118) LV is defined as an *insignificant* verb to which the markings of person and tense are attached, before the really important idea of the substantive noun, which is derived from and is identical in form to a verb. The substantive, by itself, is an (isolated) instance of an action/event. Ferguson (1957:132) calls the verbal part of the compound verbs in MF a *colourless verb*, stating that the whole compound verb functions analogously to a simple verb.

In sum LVs have been defined in the literature as having an unspecified, bleached or empty semantic, thematic content. This means that the semantic relation between its variables in the Lexical Conceptual Structure (LCS) is unspecified. As such they seem to provide simply the logical content/structure into which some substantive items are inserted in order to form a contentful predicate. But do LVs have any arguments of their own, if it is true that variables project as arguments from LCS to Predicate Argument Structure (PAS)?

The disagreement centres on the argument structure of LVs. Do they contribute any arguments to the argument structure of the resulting CPs? In Grimshaw and Mester, Japanese *suru* does not when it is transitive, but it does contribute an external argument when it is used as a causative LV, i.e., *saseru*. In Cattell (1984) LVs have independent theta-roles/arguments but the

theta-set of the LV can never override those of the nominal. The arguments of the nominal and LV are identified with each other as far as they are congruent, and the predicative nominal absorbs one theta-role of the LV. In case of incompatibility, it is always the predicate nominal that wins. Jayaseelan (1988) similarly argues for the congruence and sharing of the theta roles between the two parts of a CP in Malayalam and English so that congruent theta roles of the two are superimposed on each other and only one is retained and promoted as the argument of the CP. The theta-roles or arguments of the nominal are normally realized within VP, called *promotion of theta roles*, which is possible if they are congruent with those of the verbal host. The predicate nominal itself occupies one position in the case frame or syntactic structure of the verb and absorbs one of its roles.

Butt (1993) claims that LVs in Urdu lack the fully articulated argument structure of their full counterparts, but do retain at least one argument which then fuses with the argument structure of the nominal PV or (her) main verb. She tries to show that LVs contribute some semantic, and aspectual information to the resulting CP as well, i.e., LVs play a role in case marking of the subject which she argues is correlated with the semantic notions of conscious choice (volitionality) and inception/completion. She (1993:118-120) also argues that LVs impose restrictions on the kind of main verbs [nominal PV] they combine with through the aspectual information they contribute to the CP. However, the characteristic feature of a LV according to Butt (1993:139-141) is that they have a *transparent Event* at argument structure. "A transparent Event is an argument which corresponds to an Event in the full version of the verb" which has been whittled away and as such cannot stand alone and calls for the formation of a CP through what, following Alsina (1993), she calls *Event and/or Argument Fusion*.

Rosen (1989, 1990) discussing Romance causative and restructuring verbs, claims that

Romance restructuring verbs have a fully-specified LCS, but optionally map into argument structure with or without any arguments leading to a full or LV respectively. The argument structure of light restructuring verbs is empty and skeletal and hence cannot license any arguments. Rosen (1990) further argues that LVs lack the event <E> argument (in the sense of Higginbotham 1985; Kratzer 1988) at the level of argument structure as well. Such LVs behave like an auxiliary or modal and must combine with the argument structure of another verb through a process of "argument structure merger". This process superimposes the empty argument structure of the LV on the fully specified argument structure of the heavy verb. Furthermore, the LV links up with the <E> of the embedded verb so that they share the same event structure and as a result the entire LV construction denotes one single event (Rosen 1990: 485).

Singh (1990) puts emphasis on the aspectual contribution that LVs make in the formation of compound verbs in Hindi, by taking them as markers of telicity, indicating the different stages of a telic event, that is initial, final, and result.

In the system followed in this study a full predicate consists of (a) logical constants (CAUSE, EVENT, STATE, (COME to) BE EXISTENT, COME to BE in a STATE, BECOME, GO TO, etc.) as in a theory of lexical decomposition like Dowty (1979), and lexical semantic accounts as in Jackendoff (1983, 1990), and Hale & Keyser (H&K) (1987, 1988); (b) non-logical content (specific semantic or thematic information/substance that for example distinguishes "put" from "give"), and aspectual information; and (c) variables as parts of its lexical information perhaps in LCS (see Szabolsci 1986; Dowty 1979; H&K 1986, 1987; Jackendoff 1983, 1990, 1993).

A light predicate seems to retain the logical constants (argument structure), and an impoverished variable set, but lacks the non-logical semantic/thematic substance/content (except

some aspectual properties) of its corresponding full verb. That is, the specific, non-logical semantic content of the corresponding full verb is either totally or partially bleached and empty, or is (optionally) pushed back and backgrounded so that the verb is reduced to the logical counterpart of a *bleached predicate of existence*, also called *Definiteness Effect* verb (DE-verb) by Szabolsci (1984, 1986). Such a verb is light and its meaning is reduced to the assertion of (a change in the state of, or causing a change in the state of) existence (Szabolsci 1986: 6). That is, all LVs seem to contain a (COME to) BE in a STATE/EXISTent component as part of their logical, compositional meaning. Or LVs may be abstract, unspecified verbs of action, like *do*, which do not denote any specific properties by themselves, i.e., a verb whose non-logical substance is totally bleached.

A LV like **kard-an** "to do" in MF introduces or indicates the occurrence of an event denoted by its predicative complement and hence has a novelty (and existence) component as part of its lexical component. The complement of such verbs are obligatorily indefinite and carry an existential reading (Diesing 1992; Enç 1991; Szabolsci 1984). In sum, as Szabolsci (1984: 331) notes "DE-sentences contain a logical predicate of existence" and so are compatible only with weak indefinite NPs, that lack an existence presupposition, as their (sole) complements. She calls LVs *bleached predicates of existence*.

The common logical property of the LVs and their full verbs is reflected in the theory of argument structure I follow in this study, H&K (1991, 1992, 1993) where both LVs and their heavy counterparts have identical argument structures, i.e., a lexical-syntactic structure that corresponds to their common logical constants in (a) above (cf. chapter 3). CPs are formed based on the semantic property of the verbs, i.e., that they be bleached; the semantic property of PV complements, i.e., that they be weak, with an existential reading; and the syntactic relation between the two, i.e., that the

latter occupy the sole complement position of the former within V-bar².

Let me now return to the observation that nominal PVs (PVs in general) in CP structures in MF tend to be weak and indefinite. If LVs lack semantic content just like the verb "be" in English existential constructions (Milsark 1974, 1977; Safir 1985), then one might suspect that lightness of a verb/predicate imposes a weak, EXISTential reading on its VP internal position, i.e., on its subcategorized complement NP/XP (PV within VP), in surface sentential syntax (s-syntax hereafter).

The complements of LVs have been argued not to act as full-fledged arguments since they exhibit all the properties of non-arguments, i.e., they do not receive true theta roles; they do not interact in anaphoric binding relation; are non-referential; and are less affected by scrambling, etc. (see chapter I). What is the semantic contribution of the LVs? They appear to contribute aspectual properties, (a) telicity, perfectivity, conception, completion, inception, and logical content CAUSE, BECOME, BE in a STATE/EXISTENCE, etc. as we argued above. Notice:

- 5.a Pezešk dāru rā be Morad dād
 Physician drug RA to Morad give.ps.3S
 The physician gave the medication to Morad.
- .b Pezešk be Morad dāru dād
 Physician to Morad drug give.ps.3S
 The physician gave medication to Morad.
- .c Pezešk Morad rā šāfā dād
 Physician Morad RA cure give.ps.3S "The physician cured Morad."
- .d *Pezešk šāfā rā be Morad dād
 Physician cure RA to Morad give.ps.3S
 The physician gave the cure to Morad.

In (5a) the physician "passes" or "hands in" some definite, particular medication to Morad.

²Aspectual properties of the LVs seem to interact in their choice and matching for the proper predicative nominals. However, this is an important and independent line of research that I do not approach in this study.

Transference of an object is a major semantic, non-logical component of the meaning of the verb *give* (Jackendoff 1990). In (5a) this component is highlighted and foregrounded where *dād-an* "to give" behaves as a full, heavy predicate. In (5b), the non-logical meaning of *dād-an* is clearly backgrounded. The verb does not have the meaning of *transference* of the drug to Morad, rather it means that the physician prescribed medication for Morad who was sick. Or it could also mean that the physician helped Morad (who was sick) to have his medication, but not passing or transference of the drug. In this use the DO is obligatorily indefinite and nonreferential. Here, the non-logical semantic component of *dād-an* is pushed back and is clearly backgrounded so that *give* does not convey its non-logical interpretation of *transference of an object* but it still keeps its logical content of CAUSE to BECOME which then triggers the DR. Its DO must obligatorily be indefinite with an existential reading. **Morad** is the goal/recipient in both.

In (5c) the specific, non-logical component of meaning/substance of *dād-an*, i.e., *transference of an object*, is totally bleached or backgrounded. *Dād-an* is reduced to its logical component of meaning only, i.e., the logical constants CAUSE, COME to BE in a STATE/BE EXISTENT, a *logical predicate of existence*. Its subcategorized, designated NP (=DO) can only be indefinite, non-referential, and cannot function as a referential, specific object as in (5d). It has to stay as adjacent as possible to the verb so that it can get into the "closest possible syntactic relation" to the verb (Szabolsci 1984, 1986). Now we have an event of the *physician causing Morad to be cured/to be in a state of cured*. That is, the logical constant of the full verb, i.e., CAUSE to COME to BE in a STATE is still there (*existence* is logically deduced from *state*). Note that **Morad** still seems to have the same semantic relation with the verb as in (5a-b), i.e., he is the goal/recipient. But this time he is an affected recipient of the action denoted by the CP *šāfā=dād-an* "to cure". It is followed by *rā* for

specificity and strong objective case.

The results indicate that the verb *dād-an* "to give" (this is also true for English *give*) in its bleached, and backgrounded sense induces DR on its VP-internal object position and must obligatorily take a weak, indefinite complement with an existential reading. Indefinites introduce new discourse referents into the domain of discourse (Heim 1982). This is an *existential* reading where no presupposition of existence is available.

The fundamental property of standard *there be* EXISTential sentences is the introduction of a certain new set into the domain, i.e., an indefinite set (Milsark 1974, 1977; Safir 1985, 1887). In CP structures, LVs express/introduce the EXISTence of (or coming into being of, or occurrence of) the set denoted by the nominal PVs and PVs in general. This is done when the latter act as the designated VP-internal complements of the LVs by occurring within V-bar, just like the standard existential sentences.

The predicatehood of the PVs (with an activity/event/state interpretation) in the CP-structures seems to be obscuring the EXISTential nature induced by the LVs. However, the fact that predicates are always non-referential and indefinite seems to support the EXISTential nature of the LVs. Furthermore, nominal PVs are paralleled with PPs, adjectives and adverbs that functions as PVs in CP-structures. The latter set are uncontroversially predicative and indefinite, thus showing the identical semantic reading and syntactic function for all PVs. Only predicative XPs with an existential reading can occur in the existential (DR) environment induced by LVs, just like standard existential constructions (Milsark 1974, 1977).

In sum, LVs are *bleached predicates of existence*. Lightness of a verb seems to impose DR on its VP internal complement position. LVs do not combine with quantified, referential, and definite

(strong) phrases which carry an existential presupposition since this would lead to tautology.

I suggest that we are, indeed, dealing with **Definiteness Restriction (DR)** with respect to the VP-internal complement position of the LVs. That is, VP-internal positions of the LVs seem to exhibit **Definiteness Effect (DE)**. DR is a restriction on the occurrence of definite, quantified NPs in VP internal position of certain verbs. In the subsequent sections I will review the literature on DE and show that CP-formation in MF can be appropriately explained within this approach.

According to the "familiarity theory of definiteness" definites are used to refer to something that is familiar (at the current stage of the conversation), while indefinites are used to introduce a new referent. Yet both definites and indefinites may be used non-referentially (Heim 1982, 1983)³. The predicative nominals in CP-structures (of MF) are clearly non-referential, and indefinite. There seems to arise a clash at this point. However, indefinite nominals may introduce novel information/cards into the discourse without necessarily being referential. LVs express or introduce the occurrence of an action/event, that of the nominal PVs or COMing into EXISTence of their designated complements (PVs) in their temporal, aspectual, and sentential configuration. Introducing, EXISTence has a sense of novelty in essence. New things tend to be indefinite (see footnote (3), and Heim 1982, 1983).

Following Szabolsci (1986) I call the (light) verbs that tend to select indefinite, nonreferential complements **DE-verbs** and their indefinite, predicative complements **DE-complements**. In (6) below

³To avoid the problem that the non-referential use of definites and indefinites produces for the "familiarity theory of Definiteness" Karttunen introduces a new notion, that of "discourse reference" instead of the "reference". Discourse reference is distinct from genuine reference of the "familiarity theory of definiteness" so that an NP may have a "discourse referent" without having a "referent". Adopting ideas of Karttunen, Heim (1982, 1983) proposes the "file card" analogy to replace discourse reference of Karttunen in order to distinguish familiar information from new information. According to Heim (1982, 1983): "For every indefinite, start a new card. For every definite, update an old card". This theory, according to Heim, makes the "familiarity theory of definiteness immune to the objection mentioned above. The details do not concern us here. However, we do distinguish a referential use of indefinites from their non-referential use, and claim that only the latter type is involved in CP-structures.

I present a list of the most frequent LVs that are either totally bleached in their normal use, or those whose non-logical substance tends to be backgrounded and bleached in certain uses and hence behave as the former. Both function as *bleached predicates of existence* and retain an EXISTence component as part of their logical meaning that induces DR. These verbs fall in some different open classes mainly, divided into causative vs. inchoative pairs. Causatives and transitives (CS) are given under (i) and inchoatives (INCH) under (ii):

6. DF-Verbs:

- (a) **bud-an** "to be";
- (b) (i) **dād-an** "to give" (Causative, (CS));
- (ii) **dāšt-an** "to have"; **gereft-an** "to get, to receive";
yāft-an "to find"; **xord-an** "to hit, to collide"; **did-an** "to see, to endure, to undergo",
all INCH (-oative);
- (c) (i) **kard-an** "to do"; and its stylistic variants **namud-an** " ... "; **farmud-an** "to order, to tell"; **gardānid-an** "to turn, to cause to turn".
- (ii) **šod-an** "to become"; and its stylistic variants **gašt-an** "to turn"; **gardid-an** "to turn, to become";
- (d) (i) **zad-an** "to hit";
- (ii) **xord-an** "to collide, to hit", (INCH);
- (e) (i) **resānd-an** "to cause to reach" (CS);
- (ii) **resid-an** "to reach" (INCH);
- (f) (i) **'āvard-an** "to bring" (CS);
- (ii) **'āmad-an** "to come" (INCH);

- (g) (i) **sāxt-an** "to make, to build" (CS);
- (ii) **šod-an** "to become" (INCH);
- (h) **kešid-an** "to draw, to pull"; **bord-an** "to take, bear; **did-an** "to see, to bear, to undergo" all (INCH), aspectually close in meaning;
- (i) (i) **gozāšt-an** "to put"; (CS)
- (j) (ii) **raft-an** "to go"; (INCH)
- (k) (i) **'andāxt-an** "to throw" (CS);
- (ii) **'oftād-an** "to fall" (INCH);
- (l) (i) **xāśc-an** "to want, to ask, to request";
- (m) (ii) **peydā kard-an** "to find", itself a CP; forms equivalent CPs with **yāft-an**;

DE-complements simply function as restrictive complements/modifiers for their respective DE-verbs and substantiate the DE-verbs by complementing their lack of substance, or semantic content. The two are closely related, very similar to the account of existential constructions in Milsark (1974, 1977), Safir (1985, 1987), Higginbotham (1987) and form a CP which is subject to *predication condition*, like simple predicates in syntax. In the following sections, I will review and discuss the literature on DE which I believe plays a crucial role in the formation of CPs in MF, and which seems to do so in other languages that have productive cases of CP-structures.

2.2 Definiteness Effect (DE)

2.2.1 Milsark (1974, 1977)

Milsark (1974, 1977) showed that definite and universally quantified NPs are prohibited from appearing in the post-copular position of existential *there be* sentences. He calls this class of NPs

strong NPs as opposed to weak NPs which he refers to as *number determiners* or *cardinality words* which have an existential interpretation. The latter are permitted to occur in existential constructions. Following a suggestion of Chomsky, he subsumes definite NPs under a species of universal quantification over the "class (or class intersection) denoted by a NP", concluding that such NPs are restricted from appearing in the focus position of the existential constructions.

Milsark subsumes the weak/strong notions under a parallel distinction between the determiner classes that define nouns. Definite and universal determiners are strong, quantificational, and hence are disallowed in existential constructions. Strong determiners and strong NPs are "presuppositional" (cf. De Jong 1987; Diesing 1992). Weak determiners are argued to be intersective or symmetric in that they denote a relation between two sets and only take the cardinality of the intersection of those two sets into account, and disregard the other members of the domain. As a result they can only appear in existential constructions that introduce a new set, already unavailable in the domain of discourse. That is, existential constructions assert or introduce the existence or availability of a new set, and hence may only take weak nouns that have an existential interpretation in their post-verbal position or NP-in-VP position (Safir 1985, 1987) as in (7b-8a). (8a) is true if the set denoted by the *cats* is not an empty set. Strong NPs on the other hand cannot appear in existential constructions since their interpretation would lead to a contradiction or tautology given the existential interpretation induced by standard existential sentences (8b). In (8b) the strong partitive reading induced by *some of* is incompatible with the assertion of existence provided with the *there is* construction. Some of the *cats* in (8b) not only takes the cardinality of the intersection of two sets into consideration but also says something about the set of *cats* that are not in the garden, i.e., that it cannot be empty. That is, from (8b) it is induced that only some of the *cats* in the domain of discourse are in the garden and the

rest are not in the garden. However, (8a) disregards this latter notion. This is shown in (9a-b) corresponding to (8a-b). Determiners like *most*, and the partitive reading of *some (of the)*, and *many (of the)*, are not allowed in such constructions (8b), as opposed to their weak readings, i.e., *sm* (=some), *mn* (=many), and other weak determiners which are (7b-8a).

- 7.a Many men are in the garden. (Reuland & ter Meulen 1987)
 .b There are many men in the garden.

- 8.a There are some cats in the garden.
 .b *There are some of the cats in the garden.

- 9.a |some|exist (N) = $(X \subseteq E: |N \cap X| \geq 2)$
 .b |some|part (N) = $(X \subseteq E: |N \cap X| \geq 2 \ \& \ |N - X| \neq 0)$ (de Hoop 1990)

While *many men* in (7a) is ambiguous between a partitive and existential reading, (7b) can only have an existential interpretation. Weak determiners are *cardinality words*. *There is* is an EXISTential predicate according to Milsark, hence disallows a definite, strong partitive NP (8b), while a weak cardinality word is licit in such constructions (8a).

Milsark explains the DR by considering the formative *there* uniformly as a marker of existential quantification, analogous to the operator $\exists$ in predicate logic, that quantifies over the cardinality of the set denoted by the weak indefinite NPs, and cannot take already (universally) quantified NPs/determiners as arguments because this would lead to double quantification on the NP, something which is ruled out as anomalous⁴.

⁴ *Predicate Restriction*, a restriction on the occurrence of certain predicates in existential constructions, is shown in (i-ii) from Milsark (1977):

- i.a Linguists are intelligent.
 .b *There are Linguists intelligent.
 ii.a (All over the world) there are people hungry. (19)
 .b *There are people tall.

Milsark notes that predicate restriction applies to those predicates that denote permanent properties of the entities of which they are predicated. These name some traits possessed by the entity and are assumed to be more or less permanent, and unalterable as in (ib-iiib). On the other hand, AP and NP predicates permitted in existential constructions denote

While Milsark's insights on the distinction between weak and strong determiners, and nouns, and the association of the DE with existentiality is essentially correct, his idea on the existential nature of *there* is already rejected. It is a property of *be*, and other semantically empty verbs that function as *existential predicates* and trigger the DE within their VP-internal projection. In the next section we will study Safir's (1985) account of DE phenomena that dispenses with the existential nature of *there be* constructions but keeps the notions of weak and strong, and the DR.

2.2.2 Safir (1985)

While Milsark's account of DE is a semantic one, the one of Safir is syntactic. Safir (1985) accepts the semantic distinction made between the two types of NPs by Milsark and the DR observed in certain existential constructions. However, he accounts for the DE on the basis of the notion of *unbalanced theta-chain* where the indefinite NP is generated in a non-case but theta position, while the formative *there*, or an equivalent expletive *pro*, in subject position receives case and by coindexation transfers it to the indefinite NP which requires case. Safir observes that coindexing the indefinite NP and the expletive *there* in the subject position violates principle C of binding theory. However, he uses this observation to explain the DE by proposing the *Indefinite NP Property* according to which unbalanced theta chains are optionally exempted from the binding conditions at S-structure, because indefinite NPs are non-referential, while definite NPs are referential and are subject to binding conditions. These are hence prohibited from appearing in unbalanced theta chains.

temporary, transitory states that are subject to change as in (iia). He calls the former that do not appear in "there be", and other existential constructions "Property predicates", and the latter that do "State-descriptive Predicates". These two correspond to individual-level, and stage-level predicates of Kratzer (1988):

Individual-level predicates can only be predicated of strong NPs. Since strong NPs are prohibited from existential constructions, individual level predicates are also disallowed.

In short Safir's unbalanced theta chain account of DE is case-driven since the verbs in these constructions do not assign case to the indefinite NPs in VP-internal position and they have to be coindexed with an overt or covert expletive in subject position in order to inherit case. There is nothing EXISTential about *there (be)* ... to effect the DE. As he puts it:

... the crucial factor in predicting the DE is whether or not the PVNP [post verbal NP] is in a case-marked position. When it is not, then the DE holds, as a θ -chain is formed that can only be well-formed if the PVNP is indefinite. (Safir 1985:101)

However, Safir studies a wide range of data showing that the DE is observed not only with a limited number of verbs like *be*, *exist*, etc. but also in impersonal passives (in French), passive and unaccusative constructions, Milsark's "inside" verbs, and impersonal sentences in German and Dutch. He also tries to show that DE is neutralized whenever a separate case source obviates the necessity of forming an unbalanced theta-chain for the NP within VP. In sum what comes out of Safir's analysis shows that DE is a property of NPs in VP-internal position of certain verbs due to case-marking. The problem with this account is dealt with in the next section.

2.2.3 Reuland (1983)

Reuland's analysis of DE is essentially that of Safir, with the difference that Reuland rejects Safir's case-driven analysis of DE. He provides example (10) from German where the DE-NP is assigned Acc case apart from the expletive subject "es" which is assigned NOM case and DE still seems to hold:

10. Es gibt einen Mann im Garten
 there gives a+ACC man in-the+DAT garden
 There is a man in the garden.

Safir is aware of such constructions and argues that it does not exclude the unbalanced theta-chain

account because of the expletive "es", even though he accepts that the case Filter motivation for chain formation is inadequate. Reuland adopts Safir's unbalanced theta-chains but argues that verbs in existential structures assign case to the indefinite NP (in object position) and the expletive has NOM case, but at LF an expletive subject must be a member of a theta-marked chain in order to satisfy the Extended Projection Principle of Chomsky (1981), an advance in my view.

2.2.4 Szabolsci (1984, 1986)

Szabolsci (1984, 1986) is also an advance over the previous accounts. Presenting data from Hungarian, she identifies DE in the object position of certain transitive and intransitive sentences with lexical theta-marked NOM-subjects, and hence no expletive element, overt or covert, in subject position. Szabolsci (1984) calls such verbs *bleached existential predicates*. Notice (11a-b) from Szabolsci (1986) where a transitive verb with a lexical subject exhibits DR on the object position in Hungarian. According to her, in (11a) the existence of *two pens/some milk* is the result of what *Mary* did. The verb only conveys an existential reading, hence occurrence of a definite NP in its object position leads to ungrammaticality (11b). On the other hand, (11c) with the perfective prefix *meg-* means that Mary successfully located *two pens*, the existence of those *pens* is independent of whether Mary found them. The object may be specific or non-specific, and no DR is observed.

- 11.a Mari talált tollat / két tollat / (némi) tejet.
 Mary found pen-ACC two-ACC some milk-ACC
 Mary found a pen / two pen / some/sm milk.
- .b *Mari talált(a) a tollat / P. tollat / minden tollat.
 Mary found the pen-ACC P's pen-ACC every pen-ACC
 Mary found the pen / Peter's pen / every pen.

- .c Mari megtalált(a) két tollat / a tollat / ...
 Mary PERF-found two pen-ACC the pen-ACC
 Mary found two pens / the pen /

Szabolsci (1984, 1986) argues that in (11a), and in a list of DE (light) verbs that she provides⁵, the "specific content of the verb that triggers the definiteness effect is backgrounded; meaning is reduced to the assertion of (a change in the state of) existence" which she refers to as *bleached verbs of existence*. The addition of the perfective prefix *meg-* to these verbs brings about a fully specific meaning so that they do not assert (a change in the state of) existence any more, hence lack of DR. She calls them *full* verbs.

The presence of a lexically theta-marked NOMinative phrase in the subject position of DE-verbs, (11), specifically with a transitive one, undermines the unbalanced theta-chain of Safir and Reuland, and the EXISTential interpretation of *there be* constructions in Milsark. Szabolsci (1986) claims that these observations are true for English as well, where the same surface verb is (optionally) used in the bleached and in the full sense which makes it more difficult to spot DE, and requires more attention to the meaning of the sentence, while in Hungarian the prefix *-meg* reduces the distinction between the two types of sentences to plain ungrammaticality:

12.a John gave Mary a/*the hard time. (her 9)

.b John gave a/the bottle/*the hard time to Mary.

She points out that the equivalent of (12a) which shows DR is expressed without the perfective prefix *-meg*, while (12b) which does not show DR must be expressed with the prefix. Notice that in (12a) with the DR, the specific non-logical content of *give* is backgrounded. *Give* does not express the

⁵ The list of DE-verbs she provides in (Szabolsci 1984: 323 (No. (2)), and Szabolsci (1986:3 (No.(1))), is similar to, and in many instances identical to, the DE-(light)verbs I have provided in (6) above in MF. I claim and try to show that the DE-verbs in (6) exhibit DR as in Hungarian.

notion of *transference of sth* in (12a), rather it expresses a context in which Mary is caused to change to a new situation which she was not in before, i.e., that of coming to have *a hard time*⁶. In (12b), where *give* retains its specific semantic content, no DR is observed and the use of *give* in a figurative sense which requires *backgrounding* of this meaning is prohibited.

Light predicates subsume an EXISTential context, and she argues that it is the EXISTential nature of the context that triggers DR, rather than presence of *there*. *Backgrounding* and *bleaching* the specific, non-logical semantic content of certain full verbs reduces their content to the logical *predication of existence* which then triggers DR. Thus a "variety of verbs can function as primarily existential predicates, in which case they all trigger the DE, irrespective of the nature of the subject and the case of the designated NP" (Szabolsci 1986: 2). Szabolsci claims that DE is a property of semantically bleached verbs, called *bleached existential predicates*.

It is implied in our discussions so far that DE affects the DOs or VP-internal position of certain semantically bleached or less lexically specified verbs. The following Persian data seem to support the Hungarian and English ones (11-12), (cf. also the discussion for (5) above):

- 13.a man ye ketāb peydā kard-am / yāft-am
 I one book visible do.ps-1S / find.ps-1S "I found a book."
- .b man ketāb-am-o peydā kard-am / yāft-am
 I book-my-RA visible do.ps-1S / find.ps-1S "I found my book."
- .c man šafā peydā kard-am / yāft-am
 I cure visible do.ps-1S / find.ps-1S "I was cured."

⁶ It may be hard to accept that "a hard time" is the new "item" or "thing" introduced into the domain. This could be because "a hard time" does not denote a concrete entity, contrary to the indefinite NPs in the standard existential constructions. "A hard time" is a predicate, the head of the small clause "Mary a hard time". "A hard time" is predicated of Mary in (12). However, this is a new situation or property of Mary, which was not true of her before what John did to her.

.d *man šafā-m-o peydā kard- am / yāft-am
 I cure-my-RA visible do.ps -1S / find.ps-1S
 I was cured. "Lit. I found my cure."

.e šafā- ye man ...
 cure- EZ I "My treatment"

First note that **peydā=kard-an** is already a CP equivalent in meaning to the simple but more archaic verb **yāft-an** both meaning "to find". In (13a) the existence of *ye ketāb* "a book" is a result of what I did/found. The most prominent reading for (13a) would be (14a):

14.a The set/class of things that I found has at least one book in it.

while in (13b) **ketāb-am-o** "my book-RA" presupposes the existence of the book on the part of both the speaker and listener as in (14b).

14.b It is true of my book (that it was lost and) that I found it (as opposed to my other stuff that I might have lost and have not found yet.)

The main verbs in (13a-b) clearly keep their specific semantic content, that of "finding sth". Both definite and indefinite NPs may appear as the DO and no DR is observed. However, they differ in that (13a), as we notice from (14a), is about the activity I was engaged in, while (13b) is a two-place relation between two arguments. In (13c), similar to (13a), **šafā** "cure" was not available already, I was not healthy before. So **šafā yāft-am** "I was cured" in (13c) denotes the coming into existence and availability of something, i.e., the denotation of the NP **šafā** "cure", which was non-existent, unavailable before with regard to me. There is no way for the NP **šafā** to denote a quantified NP and receive specific objective RA. (13d), as it was the case in (13b). The verb in (13c) does not denote the action of "finding sth" any more, i.e., the semantic, non-logical content of the main verb is totally backgrounded and bleached. It simply functions as a tense, modality, and logical operator and corresponds to the structural skeleton (argument structure) of the corresponding full verb in (13a-b)

in which the noun *šafā* occupies the complement position.

In a theory of lexical decomposition, like that of Dowty (1979), and Jackendoff (1990) this would mean that the verb in (13c-d) simply has the logical component equivalent to COME to EXIST, or COME to BE AVAILABLE/to BE in a STATE. It is the NP *šafā* which contains non-logical content, and conveys semantically contentful information in (13c-d), as shown in (13e). The main verb in (13c-d) does not mean the concrete activity of finding sth; rather the predication of COMING into existence/availability exhausts the lexical meaning of the corresponding full verb and is foregrounded. Now while it might be true to say of (13c) that:

15. The set of things that came to be available to me contains the predicate *šafā*.

It is definitely nonsense to claim:

16. It is true of the predicate *šafā* that it came to be available to me.

This would be the reading of (13d), if (13d) were a grammatical sentence. The obligatory DR in (13c-d) and its optionality in (13a-b) finds a natural explanation by recourse to the existential nature of bleached predicates. Semantically *šafā*, as an inherently indefinite predicative nominal, may only be used in a DE context, i.e., the DE existential context provided by the bleached verb (13c) vs. (13d). However, (13a-b) show that the same verb is an optional DE-verb, like English *give* in (12). The non-logical semantic content of the predicative nominal makes up for the lack of this property in the LV.

This analysis is in accordance with the principal insight behind Milsark's theory that the predominantly existential nature of the context triggers the DE. However, it also shows that Milsark's attempt to attribute the existential interpretation to the formative *there* or *there be* is misguided, just as is the unbalanced theta-chain (Safir 1985; Reuland 1983). Recall (5c-d) repeated below as (17):

- 17.a Pezešk Morad rā šāfā dād
 Physician Morad RA cure give.ps.3S "The physician cured Morad."
- .b *Pezešk šāfā rā be Morad dād
 Physician cure RA to Morad give.ps.3S "The physician gave the cure to Morad."

Dād-an "to give" functions as the causative of the inchoative verbs **peydā=kard-an/yāft-an** "to find" in (13). The non-logical, semantic content of the causative verb *give* in (17a), that is "transfer of sth", is backgrounded, and is, in fact, totally bleached. It triggers the DE and cannot be used with a definite/specific DO (17b). In other words, *šāfā* is an inherently indefinite, predicative nominal and may only occur in an existential, DE context (17a) vs. (17b).

Given the lexical nominative subject in (13) and in (17a) with the causative verb *give*, and with the Hungarian transitive verb in (11a) we conclude that DE should not be restricted to the object position of *be*, unaccusatives, and passives in *there be...* constructions only. Rather the DE is a property of VP-internal position of certain verbs, including certain transitive predicates, i.e., bleached or backgrounded verbs, that trigger an existential interpretation within their VP-internal positions as in the verbs in (6).

The designated DE-complements of the DE-verbs very strongly tend to be incorporated into the verb. In (17a), the designated NPs have partially incorporated into the verb at the level of V-bar. It is not accidental that there are CPs corresponding to (17a & 13c), i.e., *šāfā=dād-an* "to cure", *šāfā=yāft-an* "to be cured", and *šāfā=peydā=kard-an* "to be cured". Szabolsci (1984, 1986) also argues that the indefinite, DE-arguments of the DE-verbs in Hungarian incorporate into the verb as well, and tend to enter into the *closest possible syntactic relation* with them which she calls *predicate modification*.

In sum, both bleached verbs and their corresponding full verbs share the logical constants, i.e.,

CAUSE to COME, to BE AVAILABLE/EXIST, or to BE in a STATE of EXISTence. Or the verb may be a verb of motion or location indicating COMing to BE in/at/over/with a Source, Goal, or Location. That is, the two share the logical content of COMing to BE or EXIST. The two differ in that the full verb has a specified, substantive, semantic content denoting a particular type of action/event. While in the bleached counterpart, the specific, substantive semantic content is either backgrounded or is totally bleached and empty so that the lexical meaning of the verb is reduced to its logical constants, that is, a *predicate of existence*. Such verbs induce an existential context which triggers DE in their VP-internal complement positions⁷. This position can only be filled with a weak, indefinite phrase of the semantic type *predicate* as opposed to *argument*, the topic of the next section.

2.3 Predicate Nominals

In this section, I provide further support for the idea that indefinite NPs in (standard) existential contexts are *predicates*. The syntactic behaviour of predicates must be accounted for by recourse to *predicate condition* that requires that the open positions in a predicate be filled/saturated. The section brings about different analyses of the behaviour of predicate nominals mainly from English, drawing from Rothstein (1983), Higginbotham (1987), Safir (1987), and Williams (1994) to show that predicate nominals tend to display DR. We conclude that the theory of grammar distinguishes between two independent sets of phrases, i.e., definites/indefinites, specifics/nonspecifics, and/or weak/strong which may also be subsumed under the larger title of

⁷ Jayaseelan (1988: 106) suggests that "a host verb [LV] must be a "primary" verb of motion or location, i.e., a verb which has Source, Goal, or Location in its θ -grid in its primary sense, without a metaphorical extension. [...]. Or it must be an "abstract" verb of action, like *do*, or of "bringing into existence, like *make*." This is equivalent to the logical content of the DE-verbs in (6).

arguments vs. *predicates* and assigns a different status to each set depending on the meaning implied by a quantificational specifier or determiner and particularly according to the syntactic positions they occupy.

Arguments denote *objects/entities* while predicates are unsaturated phrases with one or more open positions to be filled by *objects*. This distinction is subsumed under the semantic and syntactic properties of a certain class of predications, that is "the conditions on the form and interpretation of syntactic structures, especially conditions on *predication*" Higginbotham (1987: 44) (see also Rothstein 1983; Safir 1987; Williams 1994). There is something special about *predicates* and that definite NPs cannot in general be predicative. I will attempt to show that such a distinction is also viable in CP-structures of MF.

Higginbotham (1987:46), in accord with Rothstein, claims that:

- 18.a All arguments are saturated.
- .b All predicates are unsaturated.

Saturated and unsaturated are used to mark a distinction between phrases that denote objects/entities, and those that have one or more open positions into which objects are to go in order to saturate them. He defines predication, slightly differently from Rothstein: "a formal binary relation on points (nodes) of phrase marker". Predicate nominals, as predicates, participate in predication relation. But why must they be indefinite?

Higginbotham's account of DE (1987), similar to Milsark and Rothstein, marks a distinction between the types of determiners/quantifiers in the specifier position of NPs, but utilizes the syntactic *conditions on predication*⁸. The determiners in the specifier of argument NPs are (restricted)

⁸ Rothstein (1983) divides phrases into argument XPs which must count as arguments of lexical items; and non-arguments XPs, or *syntactic predicates*. Argument XPs are saturated and their distribution is governed by clause

quantifiers and can bind the variable within N', thus saturating the NP (19a). These include both weak determiners like a, and strong ones like the. However, in (19b & 20) the determiners are essentially interpreted as adjectival, unrestricted and absolute. Adjectival determiners identify positions in the thematic structure of the modified nouns so that the variable within the N's is still unsaturated and open, i.e., the two enter into theta-identification relation (Higginbotham 1985)⁹. The NP must then be saturated by predication relation or by filling its open position with arguments/objects of the first set. He derives the DR on predicate nominals, (that they must be indefinite, and occur in positions that mark the DE distinction), from the fact that "predicates must be saturated". Notice (19-20) from Rothstein (1983:103). *A fool* in (19a) is theta-marked, and saturated while in (19b) it is a secondary predicate:

19.a A fool walked into the room.

.b We considered John a fool.

The NP in (20a) is used as a secondary predicate selected by lexical heads, but the NP in (20b) is used as a free adjunct:

20.a We painted the house a brilliant shade of red.

.b Mary, a dancer, joined the Royal Ballet.

The underlined NPs in (19b-20) are not theta-marked *arguments*, rather they are *predicates* linked

(2) of the theta-criterion that obliges them to count as the argument/theta-role receiver of some theta-role assigning head. Non-arguments are monadic, one-place, open functions which must be saturated or closed by a subject in order to be well-formed. She derives the indefiniteness of XPs in existential constructions from their being predicates. Predicates must be saturated by being predicated of an argument, and do not count as arguments themselves. Similar to Milsark, and following Barwise & Cooper (1981), she derives the (non-)argumenthood of NPs from the strength of their determiner system.

⁹ Adjectival determiners are indefinite, weak, cardinality words, and symmetric in the sense that "Q A are B" is always equivalent to "Q B are A".

to a formal subject in the appropriate syntactic context.

Higginbotham (1987:54) suggests that indefinite NPs in existential *there be* constructions themselves function as sentences, "the result of applying a binder Q to an open sentence represented by N' ", in order to account for the weak, existential interpretation of these constructions. That is NP=Q-N' is interpreted as "[Qx] N'(x)" where Q is adjectival, and absolute. Such a move discards the quantificational nature of *there be* and reduces the latter to an expletive for:native.

Given this machinery, Higginbotham (1987:58) argues that the bare NP of *there*-insertion contains an E(vent)-position as a free variable similar to the E-position in verbs (Higginbotham 1985; Kratzer 1989) which ranges over events and situations. The E-position of verbs is existentially bound by an implicit existential quantifier. Similarly, the E-position of bare, indefinite NPs in existential *there* sentences with the verb *be* and verbs like "*arrive, emerge, etc*" (which unequivocally have the postverbal NP as subject), (21a), is existentially bound by the implicit existential operator within S(=NP), (21b):

21.a [Qx]N'(x,e)

.b [∃ e][Qx]N'(x,e)

(21b) expresses an existential assertion about an event. That is, an instance of the event denoted by the predicate NP occurred, came into existence, or existed.

However, Higginbotham (1987:58-59) suggests that the E-position of the bare indefinite NPs, in existential *there be* sentences, be bound/identified with the E-position of the verb (*be, etc.*) which he calls theta-identification. Identification of the two E-positions forms a complex semantic unit that is existentially bound, and is subject to the *predication condition*. He then extends the idea to other *there*-insertion existential constructions where the postverbal indefinite NP is not necessarily the

subject as in *appear, remain, etc.*

Since *there* is not a scope marker anymore and fulfils no semantic function in his theory, I suggest that the idea be further extended to existential contexts without *there* such as the transitive and INCH¹⁰ existential sentences formed with *bleached predicates of existence* (6) in MF and in Hungarian where the indefinite NP in the VP-internal position does not count as the subject either. Then, binding the E-position of indefinite NP/PV with the E of the LVs would also count as theta-identification, i.e., a type of adjectival modification (Higginbotham 1985, 1987), which leads to the merger of the two into one unsaturated position which is still subject to *predication condition*.

In sum, Higginbotham's analysis of indefinite NPs in existential sentences reduces them to existential predicates (weak NPs) and binds them to the verb by identifying the E-position of the former with the E of the verb. This theory discards the existential nature of *there* and its function as the head of unbalanced theta-chain.

Safir (1987) adds to his case-driven unbalanced theta-chain (Safir 1985) the new idea that all such indefinite NPs (and some cases of predicate NPs with strong determiner *the*) are *predicates* as opposed to *arguments*, thus explaining the DR. In other words, the linkage between *there* and the NP-in-VP is possible just in case the NP is taken as a predicate, with a default existential interpretation, i.e., a default existential assertion about the denotation of the predicate (Safir 1987:93). According to Safir (1987:85) such an analysis explicitly indicates that:

the semantic effect in question [DE] appears to be only partially about definiteness and is in fact more closely related to the syntactic and semantic properties of a certain class of predications.¹⁰

¹⁰ Safir notes that a number of formal properties of predicate nominals are reminiscent of properties of unbalanced theta-chains.

(i).a John seems a fool. (6)
.b ??John seems the fool.

In a standard unbalanced theta-chain environment, (22), the lexical NP *a man* counts as a predicate by the Predicate Principle since it is bound by *there* (he derives this from the behaviour of pure predicate nominals in NP-in-VP position, as in footnote (10)). *There* is in an argument position while *a man* is not. The chain [*there, a man*] as a whole counts as an argument of the predicate *sick* and receives a theta role from it. However, there is a problem here in that *a man*, a *bare predicate*, counts as a predicate by *Predicate Principle* but it is not saturated by being predicated of something or assigning a theta-role to an argument.

22. *There_i is a man_i sick.*

He resolves the problem by claiming, like Higginbotham (1987), that (bare) predicates quantify/predicate over Event positions. Comparing the bare predicate in (22) with the bare predicates in impersonal intransitive passives in Germanic languages, i.e., *Er sagte, daß getanzt wurde* "he said that there was dancing", that expresses "an existential assertion about an event", Safir concludes: "it seems that the natural language interpretation of a bare predicate is an existential "event" assertion about the denotation of a predicate" giving the default interpretation that a certain event involving

-
- | | | |
|--------|-----------------------------|-----|
| (ii).a | I consider John a fool. | (7) |
| .b | *?I consider John the fool. | |

Coindexation of the subject John in (i, ii) with the predicate fool is possible only in (a), and is illicit in (b) due to the violation of condition C of the binding theory, just like the DE noticed in unbalanced theta-chain environments. He notes that it is the predicatehood of the second NP, a fool, that makes the difference. A predicate by definition must be saturated in order to be well-formed. This is done by coindexation in (ia, iia). He accounts for this observation by revising Principle C so that it cannot apply to predicate nominals, i.e., **Predicate Principle:**

A potential referring expression (PRE) is a predicate or else free. (Safir 1987:87)

In (ib-iib) the referring expression, the fool, being bound by John violates Predicate Principle (principle C). He concludes (see also discussion of Szabolsci) that a referring expression counts as a syntactic argument and bears a theta-role and thus is subject to the binding conditions and the Predicate Principle; while predicate nominals, not bearing theta-roles, may appear in nonargument positions and hence are exempt from binding conditions and the Predicate Principle.

a man took place in (22).

This, (22), is similar to the predicate nominals in footnote (10) in that both types of predicate NPs appear in VP-internal positions and both are subject to the Predicate Principle and DE. As a result both convey an existential reading. This approach also marks a distinction in syntactic behaviour and semantic interpretation between *predicates* vs. *arguments*. Quantification over event does not seem to be a sole property of *bare predicates*. Rather, the common interpretation of all indefinite NPs and predicate nominals in various existential contexts seems to be that they involve an existential interpretation¹¹. The next subsection will elaborate this notion.

2.3.1 Predicate Nominals & Theta-Identification of Event-Positions

Higginbotham (1987, 1985) argues that indefinite NPs of standard existential sentences, as predicates, enter into a theta-identification relation with the LVs that identifies the Event position (in the thematic grid) of the LVs with the Event position of the indefinite predicate nominals, i.e., a joint projection of the thematic grid of the LV and the nominal predicate.

He claims that is/be in existential *there*-constructions is not pleonastic but is instead "a predicate true of everything" and has the thematic structure <1> (Higginbotham 1987:58), or <e> for the Event-argument position. Notice (23):

23. There is a man sick.

¹¹ Williams (1994) claims that *there* is the subject of the bare predicate *a man* in a sentence like:

(i) There is a man sick.

According to Williams indefinite NPs in all existential constructions are *predicates*. The indefinite predicate NP *a man* is predicated of its subject *there* in (i), and the sentence is well-formed. The existential interpretation noticed by Safir, i.e., "an existential assertion about an event", is accounted for as in Higginbotham (1987).

A man has a thematic structure as $\langle 1, e \rangle$. The $\langle e \rangle$ of a man is identified with the $\langle e \rangle$ of is/be, indicating the existential interpretation associated with predicate nominals. The two form a complex unit which is still unsaturated since a man has an unsaturated argument $\langle 1 \rangle$ which must be saturated in order to form a well-formed structure in syntax. This is done by saturating its $\langle 1 \rangle$ argument with the $\langle 1 \rangle$ argument of there. In other words, a man and the verb *be* enter into an adjectival modification relationship resulting in a semantic unit, CP, that is still unsaturated. It must saturate its open positions by *predication condition* in syntax, as shown in (24) for (23):

- 24.a $[_{IP} \text{there}, \langle 1 \rangle] [_{VP} [\text{be}, \langle e \rangle]] [_{NP} Q [N', \langle 1, e \rangle], \langle 1^*, e \rangle]$
 .b $[\exists x] \text{man}(x) \ \& \ \text{sick}(x)$
 .c $[\exists e] \text{is}(e) \ \& \ [Qx] \text{man}(x, e) \ \& \ \text{sick}(x)$

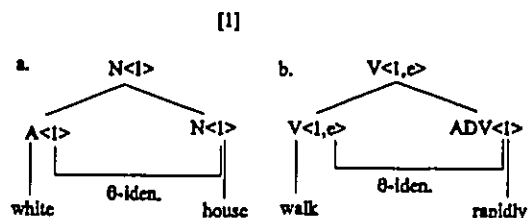
The interpretation of a sentence like (25) with a lexical subject would be as (26):

25. John is a fool.
 26.a $[\text{John}, \langle 1 \rangle] [[\text{be}, \langle e \rangle]] [a [\text{fool}, \langle 1, e \rangle], \langle 1^*, e \rangle]$
 .b $[\exists x] \text{fool}(x) \ \& \ \text{John}(x)$
 .c $[\exists e] \text{is}(e) \ \& \ [Qx] \text{fool}(x, e) \ \& \ \text{John}(x)$

The $\langle e \rangle$ role of the predicate *fool* is identified with the $\langle e \rangle$ role of be, that is quantification (=theta-identification) over the event, resulting in the default existential interpretation, i.e., there is at least one instance of an event of *being a fool* predicated of the subject *John*. That is to say, identification of the grids of the two results in a CP *being a fool* that

is then saturated by being predicated of *John*.

Let me elaborate more on theta-identification relation as introduced in Higginbotham (1985).



Higginbotham (1985) argues that adjectival modification has to be understood as identifying positions in the thematic structures of the modifying adjective and the modified noun. In simple modification the theta grid of the adjective or adverb is discharged by theta-identification which means that the open theta positions in the grid of the modifier is identified with the open position in the grid of the modifiee. However, this does not lead to the saturation of the two open positions, rather it leads in their merger into one open unsaturated position, shown by the unstarred dominating nodes in [1], which remains to be saturated in syntax. Thus phrases like *white house* and *walk rapidly* will have the structure in [1] from Speas (1990:67). The diagram shows that:

Theta identification results in the discharge of one theta position, but the grid on the node which dominates the two sisters does not contain a starred position [saturated position]. This represents the fact that the two positions are *identified*, or merged into one. The dominating node will have a position which still remains to be satisfied, and this position will be related to both of the sister constituents. We might think of this as a sort of joint projection of the grid, with the two positions merging into one. This merger is reflected in the corresponding semantic interpretation, which is one of conjunction, where both sisters are given equal status:

(88) a. *white house*: white (x) & house (x)

b. *(John) walked rapidly*: (Ee)walked (John, e) & rapid (e)

Theta-identification, then, is the merger of two undischarged grid positions. Speas (1990: 67)

In sum, I have shown that: (1) indefinite NPs in the standard existential constructions count as predicates, with an inherent, default existential interpretation, and not as quantified arguments; (2) we rejected the idea that "*there* has anything existential about it" (Higginbotham 1987:55; Williams 1994:134-141; Szabolsci 1984, 1986); (3) we showed the existential reading of predicate nominals in a formal semantic basis, and accounted for their function as non-arguments by identifying their <e> argument with the <e> argument of the DE-verb, or *is/be*. The idea seems to be very close to the existential reading of VP-internal phrases and binding with the default existential closure operator that *existentially* closes off the nuclear scope within VP (Heim 1982; Diesing 1992).

I suggest that theta-identification, as in [1] and (24-26), is the exact type of relation that the

PVs and LVs in CP-structures enter into, i.e., identifying the E-positions of the predicative PVs with the E-positions of the LVs. This results in merged, unsaturated dominating nodes, i.e., a single semantic (and syntactic) complex or CP, with one or more open argument/theta positions which must then be saturated in s-syntax by the *predication condition*. Quantification over events in the sense of Safir (1987) (which leads to the existential reading) is accomplished by theta-identification as in [1].

2.4 Predicate Nominals & Indefiniteness: Evidence from MF

The existential interpretation of predicate nominals seems to be a universal property of such nouns that distinguishes them from quantified, argument NPs, characterized partly by the properties of their respective specifiers (cf. the articles in Reuland & ter Meulen, eds. 1987). In this section I will show, briefly, that DR, and DE also holds for predicate nominals and indefinite NPs in MF. I will also show the relevance of theta-identification in CP-structures.

Persian does not have expletive subjects like there and it. The equivalent of there is/are constructions is expressed with the CP **vojud=dāšt-an** "existence have-INF, to exist", and with the copula **bud-an** "to be". Constructions with the former (CP) are not very frequent¹². The relevant

¹² Constructions with **vojud=dāšt-an** "to exist" are used in formal speech/texts to denote existence or availability of a natural or physical reality, and take both indefinite, and definite subjects, mostly inanimate. The (plural) subject does not agree with the verb, as most inanimate subjects do not in MF (ib):

i.a **yek ketāb ruyē miz vojūd dār-ad**
 one book on table existence have.pr-3S
 There is a book on the table. Or A book is on the table.

.b **ketāb-hā-ye man ruyē miz vojūd dār-ad**
 book-pl-EZ my on table existence-have.pr-3S
 My books are on the table.

ii. **xodā vojūd dār-ad**

examples in MF are provided with the latter in (27):

- 27.a Ali mo'allem 'ast
Ali teacher is
- .b Ali yek mo'allem 'ast
Ali one teacher is
- .c *Ali 'in/'ān mo'allem 'ast
Ali this/that teacher is
- .d ??*Ali yek mo'allem-i 'ast
Ali one teacher-indf is

Mo'allem "teacher" in (27a-b) is used predicatively. It is indefinite, and unsaturated. It gets saturated by being predicated of Ali. In (27c) **this/that** renders the teacher definite, and quantificational. The sentence is ungrammatical since the VP-internal position of the copula 'ast "is" triggers DE, which is incompatible with a definite NP. Similarly in (27d) where the indefinite suffix -i, together with **yek** "one", seems to trigger a strong, partitive reading, the sentence is very odd. The interpretation of (27a-b) seems to be as in (28), (cf. (24-26)):

- 28.a $[\exists x] \text{ teacher}(x) \ \& \ \text{Ali}(x)$
- .b $[\text{Ali} <1> [[\text{'ast "be"} <e>] \text{ teacher} <1,e>] <1^*, e>]$
- .c $[\exists e] \text{ is}(e) \ \& \ [Qx] \text{ teacher}(x,e) \ \& \ \text{Ali}(x)$

In (28b), the $<e>$ position of the predicate nominal **mo'allem** "teacher", with an existential reading, is identified with the $<e>$ argument of the copula "be", forming the CP "being a teacher". Its

god existence have.pr-3S
There is a god. God exists.

The verbs in (i-ii) are in the 3rd person singular despite the plural subject in (ib). The subject in (ia) is indefinite while in (ib) quantified, and definite. Deciding on the narrow scope or wide scope reading for the two subjects is very hard. Interestingly, in (i-ii) the subject NPs count as the complements of the nominal PV of the CP, i.e., **vojud** "existence" (iii). This makes it more difficult to claim that the subject NPs in (i-ii) are predicate nominals, and not arguments. DR is a property of certain NPs in VP-internal position in syntax; the subject NPs in (i-ii) are clearly arguments of **vojud**, and do not seem to fall under the type of constructions relevant to our study.

- iii. **vojud-e** ketāb-hā/xodā
existence-EZ book/god
The existence of the books/god ...

<1> argument is saturated by the <1> of **Ali** meaning that it is predicated of **Ali**.

Let us study the unaccusative equivalents of (28b-c) with **šod-an** "to become" a frequent INCHoative LV in CP-structures.

- 29.a **Ali mo'allem šod**
 Ali teacher become.ps.3S "Ali became a teacher."
 .b *Ali 'in/ān **mo'allem šod**
 Ali this/that teacher became

Mo'allem "teacher", a predicate NP, counts as NP-in-VP in (29a). It is indefinite. Its definite equivalent (29b) is illicit showing the DR (cf. (27c-d)). The sentence clearly has an existential reading which is deduced from the logical content of the INCHoative verb **šod-an** that entails a STATE predicate of BEing or EXISTence (Dowty 1979; Vendler 1967; Jackendoff 1990). On the other hand, the INCH LV in (29) lacks a specific semantic content and simply expresses a change in the state of existence of (the event denoted by) the PV, *teacher*. **Ali** changes status to become a *teacher* from a previous state of not being one. The existential reading of the NP *teacher* can be accommodated by existential quantification over an event, and identifying <e> of *teacher* with the <e> of **šod-an**. Identification forms a close/single semantic complex, CP, that is then predicated of the subject **Ali**. This is shown by embedding (28b) within the INCH verb in (30).

30. [**šod-an** <e> [**Ali** <1> [['act <e>] teacher <1,e>]] <1*, e>]]

It is not a coincidence that CP-INFinitives **mo'allem=bud-an** "to be a teacher", and **mo'allem=šod-an** "to become a teacher" seem to be acceptable¹³.

¹³ If there is anything odd about them is that the predicate nominal **mo'allem** "teacher" seems to denote an individual level predicate which is normally unacceptable in existential sentences, recalling the *predicate restriction* of Milsark (1974). However, these CP-INFs may function as NP-subjects as in (i) below:

- (i).a ?**mo'aliem=bud-an** **kār-c** **por** **mas'uliyati-y-e**

31.a havā sard šod
weather cold become.ps.3S "The weather became cold."

.b Homa 'az kelās birun raft
Homa from class out go.ps.3S "Homa went out of the class."

.c hič natije-i 'az 'in kār be dast na-yāmad
no result-indf from this task to hand neg-come.ps.3S
No result was achieved from this task.

teacher-be-INF job-EZ full responsibility-be.3S
Being a teacher is a job full of responsibility.

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formation of phrasal CPs within V-bar in syntax, (31), and lexicalization in the lexicon resulting in the CP-INFs as in (32).

- | | | | | | |
|------|--------------------------------------|----|-----------------------------------|----|---|
| 32.a | sard=šod-an
to become cold | .b | birun=raft-an
to go out | .c | be dast='āmad-an
to be gained |
|------|--------------------------------------|----|-----------------------------------|----|---|

In sum, bare indefinite NPs (and other PVs) in CP-structures in Persian exhibit DE. The DE is a restriction on *predication*, which explains the fact that (nominal) PVs tend to be indefinite, predicate and convey a default existential interpretation (Higginbotham 1987). CP-structures (in MF and Hungarian) are main instances of existential constructions with a LV, called *bleached predicate of existence* (6). Only weak, predicative phrases, PVs, can appear in the object position of the LVs in (6) which impose DR in their VP-internal complement positions which (=DR) is accountable by the *predication*. PVs and LVs are theta-identified leading to a close semantic tie, and a complex predicative node like [1], or a CP within the VP or V-bar. The complex is subject to the *predication condition* just like simple verbs in syntax.

2.5 Type Theory & Type-Shifting

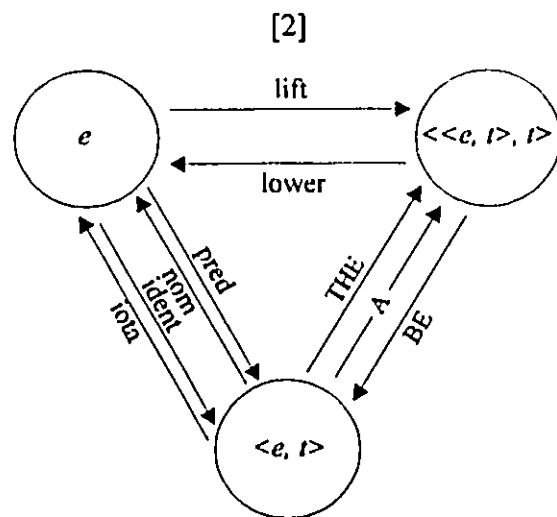
In this section, I draw from the type theory of Partee & Rooth (1983), and Partee (1987) to show that natural language NPs are divided into at least three semantic types on model theoretic grounds, i.e., quantificational, referring, and predicative. I employ the model to argue that the relation between the nominal PV and the LV in CPs in MF is that of predicate modification. The PVs of the CPs acts as predicate modifiers on type-theoretic grounds, irrespective of their syntactic category, i.e., NP, PP, Adj, Adv. The unity of type on semantic grounds and modification relation between the two parts of CPs envisages a close syntactic tie between the two, similar to other modification

relations in natural languages.

Barwise and Cooper (1981), adopting the type-theory of Montague, propose a uniform, and systematic category-to-type correspondence from syntactic categories to semantic types which disallows a single syntactic category to map onto more than one semantic type. This model treats all NPs uniformly as generalized quantifiers (GQ), i.e., expressions of the type $\langle\langle e, t \rangle, t \rangle$.

Partee & Rooth (1983) on the basis of conjoinability of extensional and intensional verbs, and their arguments argue against the uniform category-to-type mapping and propose a multiple category-to-type mapping for the distinct readings of NPs in different contexts. Contrary to the Montagovian model which assigns to the members of each syntactic category the uniform highest type, and then provides *meaning postulates* to maintain the semantic behaviour of the simple types in specific contexts, they propose the *generalized conjunction schema* according to which each basic expression is lexically assigned the simplest type to capture its basic meaning, and propose redundancy rules to predict the higher types. Partee & Rooth also argue that "there is a general processing strategy of trying lowest types first, using higher types only when they are required in order to combine meanings by available compositional rules" (cf. Partee 1987).

Partee (1987) claims that each syntactic category corresponds to a family of types as opposed to just one single type in the Montagovian approach. She distinguishes three basic types of noun phrase (NP) interpretations: referring ($\langle e \rangle$), Predicative ($\langle e, t \rangle$), and Quantificational NPs ($\langle\langle e, t \rangle, t \rangle$). She assumes, following Partee & Rooth (1983), that each



category/expression is lexically assigned the simplest unmarked type to capture its meaning, and proposes a set of general type-shifting principles that allows shifting from one type to another type for the members of the same category, thus accounting for the different interpretations of NPs in different contexts. Thus while it is more natural to treat proper names and singular pronouns with the basic interpretation type $\langle e \rangle$, a proper name like *John* has to be lifted to the type $\lambda P[P(j)]$, GQ type $\langle\langle e, t \rangle, t \rangle$, in order to interpret the conjunction *John and every woman*.

Partee relates the three types of NPs by means of general type-shifting operations, as in [2] from Partee (1987:101). The arrows represent operations which map objects in one domain with a particular interpretation into objects in the other domain with the respective interpretation:

lift: $j \mapsto \lambda P[P(j)]$	total; injective
lower: maps a principal ultrafilter onto its generator; lower (lift (j)) = j	partial; surjective
ident: $j \mapsto \lambda x[x = j]$	total; injective
iota: $P \mapsto \iota x[P(x)]$ iota (ident (j)) = j	partial; surjective
nom: $P \mapsto \cap P$ (Chierchia)	almost total; injective
pred: $x \mapsto \cup x$ (Chierchia) pred (nom (P)) = P	partial; surjective

The mappings in [2] come in pairs of inverses. Thus *lift* is an operation that maps entities into GQs, while *lower* reverses that operation turning a GQ type NP into an entity. Both these functors are natural and available without any morphological or syntactic devices. The mapping principles are not universal, rather they are language-specific. Thus languages may use lexical, syntactic, or morphological methods, or none at all, to encode the type-shifting operations.

In the previous sections, we observed that weak, indefinite NPs in existential constructions function as predicates. We suspect that their simple unmarked type might be predicative $\langle e, t \rangle$. The

unmarked type of common nouns, verb phrases and a possible type for AdjPs and PPs by default is a set of individuals of type $\langle e, t \rangle$, the property of being an entity or having some traits denoted by the entity. Evidence for this type of NPs comes from their conjoinability with APs, as in (33):

33. I consider Mary intelligent and a true baseball fan. Ramchand (1994:124)

Verbs tend to select a particular semantic type of arguments as well. The verb *be* seems to select an $\langle e \rangle$ subject and $\langle e, t \rangle$ complement. The identical interpretation of the postverbal NP in (35) with the Adj and PP in (34a-b), which are uncontroversially predicative, indicates the predicative behaviour of the former. This is indicated by the type-shifting functor BE in [2]. This is a natural functor which does not necessarily correspond to the lexical meaning of *be*, rather it applies to the GQ meaning of an NP whenever it occurs in an $\langle e, t \rangle$ position. Type shifting operations not only relate different interpretations of phrases of the same syntactic category, but also can relate interpretations of XPs of different syntactic categories. In (34-35) the functor BE, realized by *is*, relates the semantic type $\langle e, t \rangle$ to the postverbal XPs of the 3 different syntactic type.

- 34.a Jackie is nice.
 .b Jackie is in the classroom.
 35. Jackie is a/the good teacher.

The verb *consider* in (33) tends to select AP and NP complements which are of the type $\langle e, t \rangle$.

The interpretation of definite descriptions is affected by many pragmatic issues. However, singular definite descriptions can have all three different interpretations, as in (36a-b-c), from Partee (1987: table (1)), corresponding to (37a-b-c) respectively:

"The man":

- 36.a MG: $\lambda P[\exists x[\forall y[\text{man}'(y) \leftrightarrow y = x] \ \& \ P(x)]]$ $\langle \langle e, t \rangle, t \rangle$

.b	$\lambda x[\text{man}'(x) \ \& \ \forall y[\text{man}'(y) \ \rightarrow y = x]]$	$\langle e, t \rangle$
.c	$\iota x[\text{man}'(x)]$	$\langle e \rangle$
37.a	The man and every woman	
.b	I consider John the man for the job.	
.c	The man walked in. He looked tired.	

In (36c) corresponding to (37c) the definite description *the man* is of type $\langle e \rangle$. It is interpreted by the iota operator which "combines with an open sentence to give an entity-denoting expression denoting the unique satisfier of the sentence, or else it fails to denote at all" (Partee 1987).

In (37a) corresponding to (36a), THE is a total function and a natural type-shifter, mapping any entity-denoting set Q onto a GQ denoting a family or set of properties/individuals. It may be assigned as the meaning of the determiner "*the*" in English. THE (man') denotes the set of sets, or property of properties of *the man*, or else *the man* may denote an empty set.

The $\langle e, t \rangle$ reading can be achieved by the natural functor BE which applies to the GQ and picks out the singleton set of, or the property of being, the unique man if there is one, otherwise the empty set/property. It acts as a type shifter from $\langle \langle e, t \rangle, t \rangle$ to $\langle e, t \rangle$. It may or may not be realized as *be*, in English, or may not at all as in some small clauses (33, 37b). In the subordinate clause of (37b) BE is not phonologically realized. (*Be*) *the man* denotes the "property of being the unique man for the job" and is predicated of *John*.

As Partee states, some basic expressions are lexically assigned an unmarked type, and the other types are derived from them, hence are more marked. The marked types are more likely to be morphologically or syntactically distinguished. It is more natural to treat proper names and singular pronouns as individual constants and variables respectively, i.e., the simplest referential type, $\langle e \rangle$. Common nouns, VPs are lexically of the type $\langle e, t \rangle$ predicates. Natural type shifters, like *a*, *THE*, *BE*,

etc., are more likely to be absent in languages. Thus many languages e.g. Arabic, may not have one or both of the (in)definite articles, or the copula *be*.

Partee (fl. (13)) also assumes that certain positions may be subcategorized for $\langle e \rangle$, or $\langle e, t \rangle$, but never for $\langle \langle e, t \rangle, t \rangle$. $\langle e \rangle$ and $\langle \langle e, t \rangle, t \rangle$ are less marked than $\langle e, t \rangle$ for NPs, while the latter is less marked for AdjPs, PPs, and VPs. In the choice between $\langle \langle e, t \rangle, t \rangle$ and $\langle e, t \rangle$, she rightly notices a conflict between simplicity and markedness, in that while the latter is simpler, it is more marked as far as NPs are concerned. With respect to case marking on object NPs, while accusative case is the unmarked case (for $\langle \langle e, t \rangle, t \rangle$ type NPs), partitive/inherent/or weak case is the unmarked case for $\langle e, t \rangle$ type NPs, as we will see in the next section.

2.5.1 Implications for CP-structures of MF

Both definite and indefinite NPs may function as type <e> by binding discourse anaphora in MF. There is no affix to show definiteness. A bare noun may function as definite NP of type <e>:

38. ('ān) Mo'allem/ yek mo'allem vāred-e 'otāq šod.
(That) teacher/ one teacher enter-EZ room became.ps.3S.

'u xaste be nazar mi-rasid.

He tired seem IND-reach.ps.3S

(That) The teacher/a teacher entered the room. He looked tired.

But only indefinite nouns may function as predicative <e,t> type:

- 39.a 'u mo'allem 'ast
He teacher is
He is a teacher.
- .b 'u yek mo'allem 'ast
He one teacher is
He is a teacher.
- .c *'u 'ān mo'allem 'ast
He that teacher is
"He is (that) the teacher."

(39c) with a strong NP in the object position of an existential structure is illicit, showing the

incompatibility of a $\langle\langle e,t\rangle,t\rangle$ type NP in a predicative context. (39a-b) seem very close in meaning, with an indefinite noun in the object position of the existential structure, and a concomitant existential, weak reading. However, they seem to differ in that the (bare) common noun in (39a) is non-referential and predicative ($\langle e,t\rangle$), while the (bare) indefinite in (39b) seems to have a referential interpretation ($\langle e\rangle$) as well as a predicative reading. One may claim that in both (39a-b) being (**yek**) **mo'allem** "a teacher" is predicated of 'u "him". However, we can have a lexicalized CP-INF **mo'allem=budan** "being a teacher" (39a), but not ***yek mo'allem(-i)=budan** (39b). This is because bare common nouns (as Partee 1987 claims for English) are lexically *predicative* in MF as well, i.e., of the type $\langle e,t\rangle$ denoting a set of individuals. **Yek** "one" and the indefinite suffix **-i** are not part of the simple lexical form of the bare noun **mo'allem** and are utilized to function as type-shifters giving the referential type $\langle e\rangle$ in s-syntax. Using a referential noun as part of a grammaticalized, lexicalized CP seems to be impossible. Yet both NP-types count as weak NPs and hence are acceptable in existential constructions (39).

There seems to be a clash which may otherwise be solved by recourse to "discourse reference" where the indefinite NP introduces new information into discourse, but still does not count as a genuine referent but rather is a discourse referent. I count both NPs in (39a-b) as predicative (type $\langle e,t\rangle$) in s-syntax due to their identical syntactic context and type of case they receive (see Heim 1982; and ft. 3). The common bare noun **mo'allem** "teacher" is of the lexical type $\langle e,t\rangle$ which accounts for the CP **mo'allem=bud-an** "to be a teacher" (39b) formed in l(exical)-syntax. **Yek mo'allem(i)** is a s-syntactic form. The VP-internal position of the copula *be* in (39) is a predicative

position and functions as a type-shifter shifting *yek mo'ellem(i)* into a predicate in (39c)¹⁴.

Partee also argues that predicative indefinites like a man (in the object position of copula *be*) are always fully equivalent to the common nouns like man, so it would seem even more natural to omit the redundant indefinite article, (40-41):

40.a He is a teacher/*teacher.

.b Il est professeur/*un professeur.

While the indefinite article cannot be omitted in the object position of the copula in English (40a), it must in French (40b). However in the subject position where the NP is used as a referential real argument, presence of the article is obligatory in both languages (41).

41.a A teacher/*teacher walked in.

.b Un professeur/*professeur est arrivé.

Partee (1987:127) argues that for weak determiners (indefinites) to get a predicative reading is tantamount to stripping the type-shifting functor *A* (*=a, an, some* in English) off the GQ reading, leaving the common noun meaning $\langle e, t \rangle$ (since *BE* and *A* are inverses). This means that $BE(A(\text{teacher})) = \text{teacher}$. However, this means that $A(\text{teacher})$ is of type GQ, $\langle \langle e, t \rangle, t \rangle$, but it does not seem to be a GQ for me.

Partee's theory allows for double-headed arrow on the functor *ident* (mapping) to reflect the fact that for *iota* to be defined there must be one and only one noun ($=\text{teacher}$), hence $\text{teacher}' = BE(\text{THE}(\text{teacher}')) = \text{ident}(\text{iota}(\text{teacher}'))$. As she argues when *iota* is defined, the diagram is fully commutative: $\text{teacher}' = BE(\text{THE}(\text{teacher}')) = \text{ident}(\text{iota}(\text{teacher}')) = \text{ident}(\text{lower}(\text{THE}$

¹⁴ If this analysis is correct, then it means that nominal PVs preceded by the numeral quantifier *yek* "one" and the indefinite suffix *-i* in CP-structures count of the type predicates $\langle e, t \rangle$, i.e., LVs as bleached predicates of existence subcategorize for a predicative XP, $\langle e, t \rangle$, and their VP-internal position functions as a type-shifter.

(teacher'))= BE (lift (iota (teacher')))). This reflects the unity in meaning among the three types despite the difference in type.

This apparatus helps us resolve the apparent clash we seemed to have between (39a) and (39b) formally as well. Assuming that the indefinite article *yek* "one" gives us the referential type through the *iota operator*, the analysis for *yek Mo'Allem'* "a teacher" in (39b) is: $\text{iota}(\text{mo'Allem})$. (From what I understand of Partee, this would be $\text{DET}(\text{mo'Allem})$ in her system where DET ranges over A (*a, an, some*), and $\text{THE}(\text{the})$. Then $\text{BE}(\text{DET}(\text{mo'Allem}))$ gives the predicative use of *mo'Allem'* $\langle e, t \rangle$ in (39b)). This means that the object position of the copula *be*, an existential verb, acts as a functor of the type $\langle e, t \rangle$.

I get the predicative reading through *ident* if it is true that *yek mo'Allem* is referential and not GQ by itself. Applying the *ident* gives the predicative reading: $\text{yek mo'Allem}' = \text{ident}(\text{iota}(\text{mo'Allem}')) = \text{BE}(\text{DET}(\text{mo'Allem}')) = \text{BE}(\text{lift}(\text{iota}(\text{mo'Allem}')) = \text{ident}(\text{lower}(\text{DET}(\text{mo'Allem}')))$. The diagram is commutative and reflects the unity in meaning despite the differences in semantic types. This accounts for the referential meaning of indefinites in existential contexts which seems to be subsidiary and orthogonal to their predicative use in these contexts. This is reflected in our formal type-shifting system by embedding the referential *iota* functor within the predicative *ident* functor, i.e., $\text{mo'Allem}' = \text{ident}(\text{iota}(\text{mo'Allem}'))$.

This analysis takes care of the (secondary) referential use of the predicative nominals in the existential contexts provided by the light DE-verbs, (39b, 42c-d) as well, i.e., their referential use is subsidiary and orthogonal to their main predicative interpretation in these contexts, $\langle e, t \rangle$ at s-syntax. The nominal part of the CP-structures are either directly predicate nominals or are common nouns. In both cases their lexical, simplest type is predicative type $\langle e, t \rangle$, and hence form lexicalized CP-

INFs, and enter into other derivational formations.

We noticed in (32, 33) above that in CPs of MF not only NPs but also APs, PPs, Adjs and AdvS form CPs with (the same) LVs. The semantic types of the latter are uncontroversially predicative, $\langle e, t \rangle$. The identical behaviour of the two groups in forming CPs and confinement of both to VP-internal positions argues for NPs of the predicative type, $\langle e, t \rangle$, in CP-structures as well. In other words, one can argue that the light DE-verbs select/subcategorize for (direct) internal complements of type $\langle e, t \rangle$ regardless of their syntactic category.

Another set of CPs provide a more vivid evidence for type-shifting among NPs in DO position. These are CPs where the DO has a thematic relation, in the standard sense, to the so-called full verbs:

- | | | | |
|------|---|----|---|
| 42.a | Amir qazā xord
Amir food eat.ps.3S
Amir ate/had food. | .b | Amir qazā rā xord
Amir food-RA eat.ps.3S
Amir ate the food. |
| .c | Amir (ye) qazā-'i xord
Amir (one) food-indf eat.ps.3S
Amir ate some food. | .d | Amir qazā-'i rā xord
Amir food-indf RA eat.ps.3S
Amir ate some (specific) food. |
| .e | qazā=xord-an
to eat (food) | .f | *qazā-i=xord-an
to eat (some food) |

In (42a) the bare NP **qazā** "food" is nonreferential and seems to modify the verb. It forms a CP with the verb as in (42e), with a single stress pattern. The bare DO, a common noun, modifies and restricts the action of the verb and is of the predicative type $\langle e, t \rangle$. In (42b) the DO is followed by the strong object marker **rā**. It is referential, and quantificational of the type $\langle \langle e, t \rangle, t \rangle$. It takes wide scope and can freely scramble, while scrambling is very restricted in (42a). The strong DO in (42b) is adjoined to VP to take wide scope and/or receive case. It seems as if **rā** and/or specificity of the NP has shifted

its type from $\langle e, t \rangle$ in (42a), to type $\langle \langle e, t \rangle, t \rangle$ in (42b).

In (42c) the DO is non-specific, (indefinite, but referential (Ghomeshi & Massam 1994:182)). It must be of the type $\langle e \rangle$, and receives abstract objective case directly from the verb. To my intuition, it is much more marked than (42a).

In (42d) the indefinite, but specific DO, is marked with *rā* for specificity and strong objective case, and is of the type $\langle e, t \rangle, t \rangle$. The sentence is marked like (42c). As discussed above, the basic, lexical type of common nouns is $\langle e, t \rangle$, as *qazā* "food" in (42a). This type is retained in the VP-internal position of (42a), and changed to $\langle e \rangle$ type in (42c). The GQ types $\langle \langle e, t \rangle, t \rangle$ in (42b-d) are derived from the basic type by *rā*, outside VP, which functions as a type shifter from $\langle e, t \rangle$ and $\langle e \rangle$ to $\langle \langle e, t \rangle, t \rangle$ ¹⁵.

Note that a lexicalized CP is formed (at lexical level or LRS) only with the basic, simplest type of the common noun in (42a), i.e., with the predicative type $\langle e, t \rangle$, leading to *qazā=xord-an* "to food-eat" in (42e). In (42c) where the indefinite NP seems to be referential, $\langle e \rangle$, no equivalent CP is possible (42f) (cf. (42e)). Indefinite DOs which seem to be of the type $\langle e \rangle$ as (42c), still function as part of the verbal predicate with the same type of case, and syntactic position as (42a)¹⁶.

¹⁵ In (42c) *yek qazā'-i* "(i) "some food" is not truly referential, rather its referentiality is subsidiary and orthogonal to its use as a predicative noun $\langle e, t \rangle$. While *yek* and *-i* seem to enforce its interpretation as a referential noun, its syntactic position within the VP, and its existential interpretation enforce a predicative type. So that its referential interpretation is embedded within its predicative use (see the discussion for (39a-b, 40, 41)). I will return to these examples in the next section. For the existential reading of bare DOs as in (42c) see Enç (1991), Diesing (1992).

The semantic type of the indefinite, specific DO in (42d) could also be argued to be referential $\langle e \rangle$. This does not concern me at the moment. Both referential and quantificational readings count as strong readings for NPs and hence are compatible with *rā* strong objective case and/or wide scope.

¹⁶ Also notice (i):

(i).a *Amir qazā xord.* **man ham yek-kam-i az 'un xord-am*
 Amir food ate.ps.1S I too one-little-IND from it eat.ps.1S

43.a Kimiâ zamin xord Ghomeshi & Massam (1994:185)
 Kimea earth/ground collide.ps.3S
 Kimea fell.

.b Kimiâ ye zamin-e saxt-i xord Mohammad & Karimi (1992:197)
 Kimea one earth-EZ hard-indf collide.ps.3S
 Kimea fell down severely. (Lit. K. hit a hard floor.)

Amir ate/had food. I ate a little of it too.

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(43a-b) is non-referential and predicative, type $\langle e, t \rangle$. Both (43a) & (43b) contain the CP **zamin=xord-an** "to fall down" (cf. (39b)).

Thus, we note that referentiality of the nominal PVs of CPs is a controversial issue. I suspect that it might introduce a novel, discourse referent rather than a genuine referent in the domain as discussed above. In the CPs formed with light DE-verbs (which make up the major body of CPs in MF) the bare nominal PV (or XP) is clearly predicative $\langle e, t \rangle$, and the possibility of a referential $\langle e \rangle$ reading never, or rarely, arises due to the fact that DE-verbs, as bleached existential predicates, subcategorize for a $\langle e, t \rangle$ type complement.

To sum up, in this section I tried to show that XPs occurring as the non-verbal elements of the CPs are of the predicative type. Adjs, Advs, PPs in CP-structures are almost always predicative, $\langle e, t \rangle$. Nouns may belong to distinct semantic types and hence may be interpreted differently according to their syntactic and morphological properties. Partee claims that phrases are entered in their basic, simplest type in the lexicon and then shifted to other types in syntax. I tried to show that the basic semantic type of NPs in CPs is $\langle e, t \rangle$. As a result, they occur in the VP-internal position of DE-verbs (and backgrounded full, thematic verbs) that invoke an existential reading. They function as predicate NPs and detransitivize the verb.

2.6 Case and Interpretation

In this section I discuss two recent theories on the type and interpretation of NPs and their connection with case-marking. First, I will discuss Belletti's (1988) theory of indefiniteness and its relation with case-marking; then I will discuss the problems with Belletti's analysis. Second, I will outline de Hoop (1989, 1990, 1991, 1992) and Jaeggli's (1986) theory, and incorporate it in the

analysis of CP structures.

2.6.1 Belletti's Partitive Case & Definiteness Effect (DE) (Again)

Belletti (1988) argues that accusative case is not the only case an object NP can be marked with. Rather she shows that the DO of transitive verbs in Finnish may be morphologically marked with either accusative or partitive case, depending on whether the object has a definite or indefinite reading.

- 44.a Han pani kiriat poydalle
he put the book (acc, pl) on the table
- .b Han pani kirjoja poydalle
he put (some) books (part, pl) on the table

She claims that there is an incompatibility between PARTitive case and a definite NP. An NP with PARTitive case means "some of", "part of a larger set" for her. She also claims that the disparity in case-marking is available universally, and even in languages where this distinction is not realized in surface syntax, as in English, it is reflected in the interpretation.

More importantly she strongly argues that only the capacity of unaccusative (and passive) verbs to assign structural accusative case is suspended, while their capacity to assign PARTitive case to an object is maintained. The postverbal NPs/DOs in the Finnish existential *there* constructions (45a) with *be*, and in (45b) with the inside unaccusative verb *come* are assigned PARTitive. The position exhibits DE in that only an indefinite NP with a partitive/weak reading is possible there:

- 45.a Poydalla on kirjoja
on the table is (some) books (part, pl)
There are some books on the table.

- .b Helsingista tulee kirjeita
 from Helsinki comes (some) letters (part, pl)
 There came some letters from Helsinki.

Following Chomsky's (1986) theory of syntactic case, Belletti claims that PART case is an inherent case assigned at D-S by a lexical head to an NP it governs and to which it assigns a theta-role, which is then realized at S-S. Nominative and accusative are structural cases disjoint from theta-role assignment, and are assigned and realized at the level of S-structure. Both transitive and unaccusative (and passive) verbs may assign inherent/PART case to their selected thematic objects at D-structure. They differ in that only transitives may assign structural accusative case to their DOs as well.

She attributes these observations to the DE which she defines as imposing an indefinite requirement on the inverted-subject (postverbal NPs in existential constructions) or the object of unaccusative and passive verbs. PARTitive case is always concomitant with a weak, indefinite reading on the object NP. That is, the two types of objective cases she recognizes are associated with two distinct types of interpretation on the object NPs. PARTitive case imposes an indefinite partitive reading on the object which is incompatible with universally quantified NPs. Notice (46-48) from West Flemish, adopted from Belletti (1988), taken in turn from Haegeman(1986), where DE is observed in the subject position of *er* constructions of unaccusative, unergative, and transitive verbs:

46. dat er niemand gegoan is
 that there no one gone is
47. dat er niemand gewerkt eet
 that there no one worked has
48. dat er niemand eentwa gekocht eet
 that there no one something bought has (Belletti:(28))

Belletti, following Haegeman, argues that in (46-48) *er* is a subject clitic cliticized on Comp and the

[NP,IP] position is empty or filled with its trace, so that the indefinite subjects cannot fill that position. In (46) the subject fills the object position of the unaccusative verb, while in (47-48) it is adjoined to VP, that is a VP-internal position or in SpecVP. The only possible case for the indefinite subjects in (47-48), Belletti argues, is PARTitive case, since NOM is assigned to *er*. Furthermore, in (48) accusative case is assigned to the object NP, "something". No definite NP can replace the subjects in (46-48). Belletti claims the DE in (46-48) is due to partitive case assigned by the verb to its thematic arguments in a VP-internal position, thus concluding that DE is a "phenomenon involving, in its "core" manifestation, the object position of unaccusative verbs". The idea clearly rejects the DE accounts in Milsark, Safir (1985, 1987), and Higginbotham (1987) as far as they are dependent on the unbalanced theta-chain and the interpretation of *there* as an existential formative¹⁷.

In sum, Belletti's analysis also restrict the DE to the object position of certain verbs (mainly unaccusatives and passives) indicating that the DE is a property of (a) VP-internal (object) NPs/positions, and (b) shows that the interpretation of an NP is closely related to its syntactic position and the type of case the NP receives. That is, she associates the type of case-marking on an object with its ((in)definite) interpretation. In the next section we will see that Belletti's argument with respect to the "inherent" property of PARTitive case cannot be maintained, as argued by de Hoop (1990, 1992), Jaeggli (1986), Siewierska (1984). However her contribution with respect to two types of objective cases and their relationship with the interpretation of the NPs will be adopted and further extended.

¹⁷ She also provides examples, similar to (48) and (44b), from German where DE is observed on the VP-internal NPs of unaccusative, unergative and transitive verbs (Belletti 1988:14). This might indicate that DE may be taken as an optional property of the VP-internal position of certain transitive and unergative verbs as well as unaccusatives and passives. Her analysis of DE is very close to the DE account in Szabolsci (1984, 1986) and the analysis adopted in this study, and is opposite to the unbalanced theta-chain account of Safir (1985, 1987), (Higginbotham 1987; Reuland 1983).

2.6.2 Two Types of Structural Objective Cases: Jaeggli (1986) & de Hoop (1992)

In this section, I argue for the recognition of two distinct types of structural objective cases with distinct interpretations and distributions. The idea is as follows: Unaccusatives, passives and transitives may directly assign a type of structural objective case to a weak VP-internal object (NP) which is reminiscent of DE. This case is distinct from the standard structural accusative case which is assigned by the verb in conjunction with a functional category like tense or Agr-OP. The former has been called inherent or PARTitive case (Belletti 1988; Larson 1988; Chomsky 1986.)

De Hoop (1989, 1992) departs from Belletti on two accounts. First, she distinguishes between the syntactic notion of (inherent) "PARTitive case" and the semantic notion of "partitivity" which implies a reading on an NP as "some of", "part of", "part of a larger set". De Hoop (1989, 1992) disagrees with Belletti that semantic partitivity denotes a weak interpretation on an NP. Rather she shows that partitivity has to be considered as a strong reading on an NP. While a weak reading brings about an existential or cardinal interpretation for a determiner/NP and disregards the other members of the NP in the domain, a partitive interpretation conveys a proportional reading and is clearly concerned with the total number of the denotation of the NP in the domain, i.e., a strong rather than a weak interpretation. In English, partitives are considered as NP within NP, and the embedded determiner in partitive constructions is normally definite rather than indefinite, i.e., *some of/each of the teachers*¹⁸.

Belletti associates PARTitive case to indefiniteness in order to account for DE in existential constructions. De Hoop (1989, & 1992: 62-65) shows that in Finnish when the sentence is interpreted

¹⁸ Syntactic partitivity is not confined to PARTitive case, rather it includes some "of" constructions in English and constructions with "de" and "du" of French (see de Hoop 1989 for detail).

semantically as irresultative, PART case can be assigned to a definite or indefinite NP, as in (49a):

- 49.a Anne rakensi taloa (de Hoop 1989, her 22)
Anne built housePART
Ann was building a/the house
- .b Anne rakensi talon (her 23)
Anne built houseAcc
Ann built a/the house

In (50), a universally quantified NP that can only have a definite reading is assigned PART case in Finnish:

50. presidentti ampui kaikkia Lintuja (de Hoop 1989, her 23)
president shot all-PART birds-PART
The president shot at all the birds.

This is clearly contrary to Belletti's analysis which excludes PARTitive case from appearing on definite, and universally quantified NPs. The analysis indicates that the correlation between "semantic partitivity"/"PARTitive case" and indefiniteness cannot be maintained and it weakens Belletti's analysis for the definiteness restriction in unaccusative verbs and existential structures.

Secondly, Belletti (1988) argued for the existence of a relation between type of (objective) case and interpretation of NPs, (44) above. De Hoop (1989, 1990, 1991, 1992) argues that the distinction between weak and strong NPs cannot be determined and fixed simply based on the semantic type of their determiners (cf. Milsark 1977; Lappin 1988; Keenan 1987). Rather the syntactic distribution and type of case on an NP will finally have a bearing on whether an NP has a weak or strong interpretation.

She recognizes two possible structural cases for the object of a transitive verb, each tied up with a certain interpretation. (1) Strong structural objective case assigned to an object NP which turns it into a GQ of type $\langle\langle e, t \rangle, t \rangle$ with a concomitant strong reading regardless of the semantic strength

of the NP by itself. Within the standard theory of Government and Binding this case is assumed to be assigned by a functional head at spec Agr-OP, or at a position adjoined to VP by the verb in conjunction with a functional head (Larson 1988:360; Chomsky 1989). (2) Weak structural objective case which is assigned directly by the verb and is concomitant with a weak reading on the NP. Weak objective case is disjoint from inherent, thematic, or PARTitive case fixed to a particular theta-role.

Weak NPs in Dutch existential structures may have a strong partitive interpretation or a weak existential interpretation depending on whether they receive NOM case at spec-VP from INFL, or inherent case directly from the verb in the object position respectively (Diesing 1992). An NP assigned structural objective weak case is normally indefinite and has a weak existential interpretation. Weak case may be due to the irresultative reading of the predicate as well (49a). Notice (51) from de Hoop (1989), her (22):

- 51.a Presidentti ampui lintua.
 president shot bird-PART
 The president shot at a/the bird
- .b Presidentti ampui linnun.
 president shot bird-Acc
 The president shot a/the bird

PARTitive case expresses irresultativity irrespective of (in)definiteness of the object. As we notice from the English gloss, i.e. the PP "at NP" in (51a), the PARTitive case-marked object seems to function as a predicate modifier, and does not count as an affected argument. (51a) expresses a one-place activity of "shooting at a/the bird" predicated of "the president" with an irresultative meaning. Thus a PARTitive case-marked object in Finnish either takes an indefinite NP or causes the predicate to be "irresultative" (49-50-51). De Hoop (1989, 1992) concludes that a PARTitive object in Finnish must be regarded "primarily as part of a predicate rather than as an independent argument". In (51b)

the object with a strong accusative case is entirely affected and functions as a true argument, i.e., a GQ of the type $\langle\langle e, t \rangle, t \rangle$. The transitive verb in (51b) is interpreted as a two-place function between two NP arguments, the subject and the object. Both unaccusative/passive verbs and transitive verbs can assign weak structural case to a weak object NP which results in a weak interpretation.

However, she departs from Belletti in that *weak structural objective case* and PART case are disjoint from a fixed theta-role, as we see in (52) from Finnish (de Hoop 1992: 87-88). In (52) the subject of the small clause selected by the ECM transitive verb *consider* can bear PARTitive case, which should be impossible in Belletti's account that takes it as an inherent case:

- 52.a Anne pitää [hlesinkiläisiä kummallisina] (her (87))
 Anne considers inhabitants of Helsinki_{PART} strange

She attributes this to irresultativity of the predicate *consider ... strange* that can assign PARTitive case to an ECM-object in a D-structure configuration. A resultative predicate would assign accusative case to an ECM-object under similar conditions:

- 52.b Anne Juosksi kengät hajalle (her (88))
 Anne ran shoes_{ACC} to-pieces

In (53) the causative affixal ECM verb *-tit* (in West Greenlandic) is antipassivized, so the ACC case in (53) can only be structural rather than inherent in nature (her (86), adapted from Bok-Bennema

- 1991). 53. Miiqqa-nik kalaallisut ilinniar-tit-si-vuq
 Children_{ACC} Greenlandic learn-cause_{ap-ind-3s}
 She is teaching children Greenlandic.

Jaeggli (1986) also argues: "In other languages, however, passive participles appear to be capable of assigning Case to NPs that are not necessarily thematically restricted in any way". Notice these examples from Kinyarwanda, cited in Siewierska (1984:60-62), and discussed in Jaeggli (1986:597):

- 54.a Ibaruwa yoherejwe Maria na Yohani (underlining mine)
 letter sent+PASS Maria by yohani
 The letter was sent (to) Maria by Yohani.
- .b Maria yoherejwe Ibaruwa na Yohani
 Maria sent+PASS letter by yohani
 Maria was sent the letter by Yohani.
- .c Ikaramu yandikishijwe Ibaruwa na Yohani
 pen write+PASS letter by yohani
 The pen was written a letter with by Yohani.

In (54) the passive verb can take any of its three lexical complements (with three distinct thematic roles) as subject, thus paying no particular attention to the thematic role of its complements: in (54a) the goal argument, in (54b) the theme argument, and in (54c) a subject that corresponds to the instrumental argument. Since these arguments must have received case from the passive verb, Jaeggli concludes that the passive verb must have assigned structural case rather than inherent case to its complements, since inherent case is tied up closely to particular theta roles, whereas structural case is completely free.

According to Siewierska (1984) the underlined NP in (54b) cliticizes and relativizes like a direct object further confirming that it is assigned structural case. On the other hand it cannot be accusative case since this case is absorbed with the passive morphology. Notice (55) from Jaeggli from Scandinavian languages where the lexical complement of the passive morphology is not thematically restricted:

- 55.a Jens ble gitt en bok
 Jens was given a book "Jens was given a book."
- .b En book ble gitt Jens
 a book was given Jens "A book was given Jens."

These facts cast doubt on the viability of inherent case fixed to a particular theta role. Jaeggli

(1986:598) concludes that in some languages a transitive verb may assign more than one (i.e., two,) structural objective cases (e.g., Scandinavian and Kinyarwanda). He argues that passive (participles) and unaccusatives can assign a kind of *structural objective case*, distinct from the standard accusative case, to a direct internal complement of the verb, even though their ability to assign structural accusative case has been suspended through passive morphology.

Jaeggli, however, assumes that the property of assigning two structural cases is a language specific property of verbs, and the unmarked case is for a verb to assign one and only one structural case to an internal argument. In the case of English (and Dutch and German) he argues that a transitive verb may assign a structural and an inherent objective case. Notice the following example of double accusative construction in German, and its English gloss:

56. ...dass er mich Deutsch gelehrt hat De Hoop (1989)
 that he me-ACC German-ACC taught has
 "...that he taught me German."

Mich receives structural accusative case and can function as subject in a passive sentence for (56), while *Deutsch* has inherent objective case and cannot function as the subject of the passive sentence. The same has been proposed for the English gloss of (56) by Chomsky (1981), and Larson (1988) who state that *me* has structural and *German* inherent case. Thus, in the English gloss of the double object construction (56), only *me* can function as the subject of the passive sentence, *I was taught German*, and not German, **German was taught me*. German is a demoted V'-adjunct argument here. Larson (1988) suggests two types of (structural and inherent) objective cases in transitive structures (56). Jaeggli is obliged to agree, very unwillingly, that the case of *German* is inherent rather than structural since *German* is thematically restricted to theme in English. In de Hoop's (1992) analysis, contrary to de Hoop (1989), the case of *Deutsch* in (56) is *structural* and not inherent, and the

predicate is irresultative. Also notice (57):

57.a John was given a book by Bill.

.b *A book was given John by Bill.

A book in (57a) is assigned case by the passive verb which must be different from the structural accusative case since the latter case is absorbed by the passive morphology *-en*. According to Larson (1988), and Chomsky (1981), it is assigned inherent case tied up to a particular thematic relation, i.e., theme. According to Larson (1988) *a book* behaves as a V'-adjunct argument like *German* in (56). Jaeggli concedes, unwillingly, that *a book* receives inherent case connected to theme role.

We agree with the theory of de Hoop (1992) that *a book* in (57a) is assigned weak structural objective case directly by the verb. *A book*, the deep DO, is not a real, affected argument (type GQ) of the verb *give* rather an adjunct complement within V-bar and part of the main predicate, e.g., *give a book*. This is shown in (57b) where *a book* cannot function as the subject of a passive sentence even though it seems to be referential (cf. gloss of (56)). There is no DE, contrary to what we expect, but the predicate is irresultative. We seem to have a one-place CP *giving a book* predicated of *John* in (57a). If receiving a theta-role would render *a book* into a true argument as Chomsky (1981) suggests then we would expect it to be passivizable like a true argument ¹⁹. According to Larson (1988:362), (57b) is ruled out since *John* cannot receive case.

¹⁹Tenny (1989) has argued that it is generally the affected argument of the verb that measures out, and delimits the action denoted by the verb and as such occupies the structural DO position. Levin & Rappaport (1986, 1988) have shown that the rules of grammar and "operations on lexical representation may not have access to theta role labels but may only affect the process of theta role assignment". In particular Levin and Rappaport (1986:657) show that the passive morpheme is associated with the "suppression of the external theta role, but the theta role itself is not specified: the external argument may be associated with any of a wide range of theta-roles ...". The difference between (57a) and (55) seems to be that the verb in Scandinavian languages can directly assign dative case to *Jens* in (55b), but English dative verbs cannot do so without the help of the preposition *to*. The analysis so far suggests that case assignment may be divorced from theta-role assignment (including in English double object constructions).

The status of *a book*, as an unaffected adjunct-argument of *give* which only occupies a VP-adjoined position, is in accordance with the weak, existential, or irresultative meaning we suggest to be concomitant with weak case.

Not all objects with weak case are of the type predicate, <e,t>. De Hoop (1992:112-113, exs. 139-143) shows that if a strong (GQ) NP receives weak case, it will acquire a weak reading and function as a predicate modifier or part of the predicate, e.g. *do the laundry* and (57a). She also argues that referential objects of the type <e> may also appear in existential constructions and as such receive weak case with a concomitant existential, weak interpretation. Since the former situation does not concern me in this thesis, I will only discuss the latter. Notice (58) from Dutch: :

- 58.a omdat een krant meestal enkele artikelen bevat (De Hoop 1992, her 135-136)
because a paper mostly some articles contains
- .b *omdat een krant enkele artikelen meestal bevat
because a paper some articles mostly contains
Because a paper contains mostly some articles

The verb of (58a) is clearly transitive. The NP marked weak case cannot scramble before the adverb as in (58b). According to de Hoop we are dealing with a real object in (58a) and not with some kind of predicate modifier since the object cannot be left out of the sentence (see her 137-138). Even though the object is not of the type predicate modifier <e,t>, <e,t>, it still functions as part of the predicate as we notice from its inability to scramble and to passivize. The object in (58a) is weak, indefinite, with an existential, weak interpretation and is of the type <e>. The type of *a book* in (57a) and in *John gave Bill a book*, with weak case, also seems to be of the type <e>.

To see the relevance of these discussions to CP-structures in MF recall (42) repeated as (59):

- | | | | |
|------|--|----|---|
| 59.a | Amir qazā xord
Amir food eat.ps.3S
Amir ate/had food. | .b | Amir qazā rā xord
Amir food-RA eat.ps.3S
Amir ate the food. |
| .c | Amir (yek) qazā-'i xord
Amir (one) food-indf eat.ps.3S
Amir ate some food. | .d | Amir (yek) qazā-'i rā xord
Amir (one) food-indf RA eat.ps.3S
Amir ate some (specific) food. |

60.a qazā xord-e šod
 food eat.ppr become.ps.3S
 The food was eaten.

.b ?(yek) qazā-'i xord-e šod
 (one)food-indf eat-ppr became
 Some food was eaten.

In (59a), *qazā* "food", a weak, non-specific, and non-referential bare common noun, functions as a DO for the transitive verb *eat*. It has an existential interpretation (Diesing 1992; Enç 1991) and receives weak objective case directly from the verb. *Qazā* is a predicate $\langle e, t \rangle$ and functions as a predicate modifier, type $\langle e, t \rangle, \langle e, t \rangle$, and forms a CP with the verb, *qazā=xord-an* "to food-eat". The expression is about an activity of *food-eating* predicated of *Amir*, the subject.

As argued by Karimi (1989, 1990), Brown (1970) transitive verbs mark their DOs for specificity in Persian shown by *rā*. The bare NP in (59b), *qazā* "food", is marked by *rā*. It is a strong and specific noun. The only difference between (59a) and (59b) is the presence of *rā* after the bare specific object in the latter. Karimi argues that *rā* marks an object for specificity and oblique case where oblique means [-Nom] case at a position adjoined to VP. In a recent study, Ghomeshi (1996) argues that *rā* marks a presuppositional object. She further suggests that *rā* projects a Kase Phrase adjoined to VP which assigns case to any presuppositional objects and/or DPs adjoined to VP.

I assume that *rā* marks a strong quantificational object of type GQ or type referential which must move from its VP-internal position to take wide scope (cf. chapter 1). This movement has also been argued to be for case reasons, called object shift (Mahajan 1991, 1992). Object shift according to Diesing & Jelinek (1993) is triggered by "presuppositionality" of the moved object in order to take wide scope. Assuming that *rā* also marks strong objective case at a position adjoined to VP, we note that *rā* shifts the type of the bare DO from $\langle e, t \rangle$ in (59a) to $\langle \langle e, t \rangle, t \rangle$ in (59b), i.e., a GQ with a strong interpretation so that we have a full-fledged transitive predicate relating a subject and an object to each other. It can be passivized (60a). The interpretation of the passive subject in (60a) is the

strong reading of qazā in (59b) and not its weak, existential reading in (59a).

I argued above that the DO, *yek qazā'-i*, in (59c) has the primary interpretation of a weak, existential NP. Its referentiality is subsidiary and orthogonal to its predicative use. It only conforms to discourse as opposed to genuine reference. According to Ghomeshi & Massam (1994) it is indefinite but referential, hence must be of the type $\langle e \rangle$. It does not carry *rā*, so it is assigned weak objective case directly by the verb. The verb is transitive and the indefinite DO does not seem to function as a predicate modifier of type $\langle e, t \rangle, \langle e, t \rangle$, but one would wish to claim that it still functions as part of the predicate since it still has a weak, existential interpretation (see the discussion for 58). Similar to the bare DO in (59a) it scrambles very limitedly within VP. Its passivized form (60b) (see below) with the same reading as the indefinite DO in (59c) is very odd unless a clear context is provided .

The same indefinite DO in (59c), *yek qazā'-i*, functions as an indefinite but specific DO in (59d). It is now a strong and referential NP and is followed by *rā*. It does not have a weak existential reading anymore, since its existence is now presupposed at least on the part of the speaker. If (60b) is a correct passive sentence at all in MF, then it must only be considered as the passive of the reading implied by (59d) and not (59c). That is the reading of the passive subject in (60b) is that of a specific, and referential NP of type $\langle e \rangle$, i.e., the DO of (59d) and not the DO of (59c).

The weak DOs in (59a & 59c) cannot function as the subject of corresponding passives and maintain their weak existential interpretations. The passive subjects in (60a-b) may only correspond to strong DOs in (59b) and (59d) respectively. The weak objects bearing weak case in (59a) and (59c) are shifted to the strong types $\langle \langle e, t \rangle, t \rangle$ and $\langle e \rangle$ by the strong objective case *rā* in (59b) (59d),

or by the strong nominative case in subject position (60a) and (60b)²⁰.

As discussed under (42-43), ambiguity on (non-)referentiality of the nominal PVs in CP-structures arises mainly with respect to the so-called full, thematic verbs, but not with respect to the light DE-verbs. The weak object of full verbs in (59a & 59c) do not seem to count as true referential arguments due to the lack of anaphor binding, scrambling, and passivization, as we saw above (cf. ft. 20). Rather, they are predominantly predicative with a possibility of (subsidiary) <e> reading as well. This is supported by the existential reading of the weak objects in (59a & 59c) where the lexical meaning of full verbs are reduced and backgrounded.

To summarize, the unmarked type of nominal PVs in CP-structures of MF is predicative, <e,t>, and function as predicate modifiers, <e,t>,<e,t>, or part of the verbal predicates. Nominal PVs receive weak case directly from the verb, which is compatible with their existential reading we noticed above. Indefinite suffix -i, or the weak numeral quantifier *yek/ye* "one" on an NP does not necessarily mean a referential reading, rather the syntactic position seems to have a bearing on its semantic type

21.

²⁰ Karimi (1990:147, ft. 11), referring to Fodor and Sag (1983), states several factors which increase the availability of the specific reading of indefinite NPs such as left-dislocation, topicalization, and subject position, etc. Subject position is tied up with NOM case which is a (strong) structural case. The weak objects in (59a & 59c) strongly tend to remain adjacent to the verb, or within the nuclear scope, and are closed off by the default existential closure operator at LF (Heim 1982; Diesing 1992), hence their existential reading. Their movement out of VP gives a marked, topicalized interpretation or leads to ungrammaticality. The strong DOs move out of the domain of VP in (59b & (59d) and (60) and are within the restrictive clause and may be closed off by any adverbial or quantificational operators. The weak objects in (59a & 59c) need not receive a theta-role from the full verbs in (59a & 59c) since they are not *arguments* but rather count as part of the main verbal predicate of the clause. This seems to further motivate the preference for weak structural objective case to inherent objective case fixed to a theta-role.

²¹ Enç (1991) shows that specific (definite) DOs in Turkish are morphologically marked with accusative case while non-specific DOs are not:

(i).a *Zeynep adam-ı gördü.*
 Zeynep man-ACC saw
 Zeynep saw the man.

.b *Zeynep bir adam gördü.*
 Zeynep one man saw
 Zeynep saw some man.

.c **Zeynep adam gördü.*

Given these observations, let us adopt (61) from de Hoop (1992:99) as a working hypothesis regarding the relationship between case and interpretation of objects:

61. HYPOTHESIS

An object is interpreted as generalized quantifier [real argument] if and only if it bears strong case. An object that bears weak case is interpreted as part of the predicate.

Weak case is a structural objective case and is not restricted to a particular theta-role. Weak case is not restricted to passive participles, rather unaccusatives, transitives, and unergatives are also capable of assigning/licensing it in a certain syntactic configuration. Weak objective case on a noun is concomitant with a weak existential interpretation, i.e., DE, and/or with irresultativity of the predicate. Objects with weak case may function as predicate modifiers of type $\langle e, t \rangle$, $\langle e, t \rangle$, and tend to have a de-transitivizing function. They strongly tend to remain adjacent to the verb and may eventually incorporate into the verb, totally or partially. An object with weak case may also be of the type $\langle e \rangle$ but still function as *part of the predicate*, and have an existential reading.

Nouns marked with strong structural objective case have strong readings and count as real,

Zeynep the man saw

Enç argues that the bare definite description with accusative case (i.a) has a specific or presuppositional reading denoting that its discourse referent is linked to already established discourse referents. She is explicit in claiming that the indefinite/non-specific DO (i.b) without morphological accusative case (=weak case) has an existential reading. Its discourse referent is not linked to an already established referent, i.e. the novelty condition of Heim. It introduces a new set into discourse, denoting that the set is not empty. It does not take other members of the domain into account. (i.c) where the specific/definite *man* lacks overt morphological accusative case, is ungrammatical. (According to Enç ((1991), ft. (12)) definite descriptions in Turkish (the DOs in her (12a & 12c) do not carry overt determiners and surface as bare nouns (similar to specific DOs in MF)).

However, Enç (1991, ft. 12) argues that Turkish allows the incorporation of a bare noun into the verb yielding a nonspecific reading for that argument. Thus preverbal bare nouns are ambiguous and (i.c) can be grammatical only if *adam* "man" is incorporated into the verb and forms a complex predicate meaning *man-seeing*. This is exactly in accordance with the analysis I have advanced in that both LVs and lexical full verbs can trigger a weak, existential reading (DR) on their DOs within V-bar. The verb in (i) is equivalent to our full, thematic verbs.

The idea of Enç with regard to the existential reading of non-specifics/indefinites in the object position has been adopted and further elaborated by de Hoop (1992), Diesing (1992), Ramchand (1994). Diesing (1992: 80-85) argues that VP-internal subjects, NP-VP, in Dutch are obligatorily indefinite with an existential interpretation while definite subjects occur in NP-IP in Dutch with a specific, and presuppositional interpretation, regardless of the heaviness of the verb.

affected arguments that delimit and measure out the action denoted by the verb (Tenny 1987). They are of the GQ $\langle\langle e, t \rangle, t \rangle$ or $\langle e \rangle$ type. Structural strong c_2 functions as a type shifter that changes the simple lexical type of an object from type $\langle e \rangle$ or $\langle e, t \rangle$ to one of the GQ $\langle\langle e, t \rangle, t \rangle$. Such NPs are freer to scramble and lend themselves to anaphoric binding relationships. According to de Hoop (1992) scrambling is possible if an NP bears strong case. The morpheme *rā* in Persian was argued to mark an object with strong case and strong quantificational and presuppositional reading adjoined to VP. The analysis tends to divorce the relationship between object case and a particular theta-role.

2.7 More Evidence from CP-structures in MF: LVs *Kard-an* "to do" , *Šod-an* "to become"

In this section, I will discuss the ergative alternating LV *kard-an* "to do" and its unaccusative alternant *šod-an* "to become". We see that they are both DE-verbs and induce an existential reading, and thus, DR in their VP-internal projection. As a result they subcategorize for complements (PV) that are unambiguously weak, of the type $\langle e, t \rangle$. Since LVs are unlikely to be able to assign any thematic roles, their weak nominal PVs are argued to have an abstract weak structural case as opposed to inherent case.

The LV *kard-an* "to do, to make", a simple transitive verb, is prototypical of causative and transitive verbs and is used to interrogate the activity denoted by such verbs similar to *do* in English. In (62) *kard-an* combines with the noun *kār* "work, job", that is also prototypical of common and event nominals, and forms a CP.

62. man in *kār-rā* be xāter-e to *kard-am*
 I this work-RA to sake EZ you do.ps-1S
 I did this work/this for your sake.

In (62), *kār* "work, job", as the DO, is definite and specific and is followed by strong *rā*. The PP is

optional in (62). In (63) *kār* is weak indefinite, and non-specific. *Kār* may be modified by an adjective, or be pluralized as in (63b), which shows that it is an X^{max} .

63.a man be *xāter-e* to *kār* *mi-kon-am*
 I to sake-EZ you work IND-do.prs-1S
 I work for your sake.

.b man be *xāter-e* to *kār-haa-ye* *saxt-i* *mi-kon-am*
 I to sake-EZ you work-pl-EZ hard-indf IND-do-1S
 I do hard work for your sake.

As a weak NP, *kār* receives weak objective case, and has the semantic and syntactic properties mentioned above: it must remain adjacent to the LV; it cannot scramble; passivization of (63) is odd; and it forms an intransitive CP with the LV, i.e., *kār=kard-an*, equivalent to *work* in English²².

From the analysis for (62-63) one may consider *kard-an* a full verb which selects and theta-marks its DO, *kār*, which then forms a CP with it when the DO is weak (63). If so, the case of the DO in (63) could be called *inherent* and not *weak case*.

However, *kard-an*, in its prime use, functions as a LV that combines with numerous and distinct nominal and adjectival PVs, with their own argument arrays, and forms CPs with them. Here, *kard-an* counts as a simple, transitive verb of action denoting a non-specific activity and is a carrier of tense and agreement for the CP. In (64a), the nominal PV *tanbih* "punishment" functions as the subcategorized direct internal complement for *kard-an*. It is modified by an adjective. It cannot be deleted. In (64b) the CP *tanbih=kard-an* "to punish" is modified by an adverb. The two lexicalize into a CP-INFinitive (64d). (64c) shows that all the arguments of the CPs in (64a-b), i.e., *Ali* and *police*, are provided by the nominal *tanbih*, and not by the LV.

²² *kard-an* is also used in a highly pejorative sense, meaning to have (forceful) sexual intercourse with somebody; or to rape. In this sense it functions as a full lexical verb and its DO is followed by *rā*.

- 64.a Polis Ali *rā* **tanbih-e** saxt-i kard
 Police Ali-RA punishment-EZ hard-indf did
 The police punished Ali severely.
- .b Polis Ali *rā* saxt **tanbih** kard
 Police Ali-RA hard punish did
 The police punished Ali severely.
- .c **tanbih-e** Ali tavasote polis .d **tanbih=kard-an**
 punishment-EZ Ali by the police. punish-do-INF
 Ali's punishment by the police. to punish

We seem to face an instance of double-object in (64a-b). The noun **tanbih** in (64a-b) cannot be marked by strong case *rā* since this case is already assigned to Ali. While Ali can function as the subject of the passive sentences for (64a-b), **tanbih** cannot. Ali is a strong, affected argument while **tanbih** is a predicative noun, <e,t>. Yet both nouns are obligatory in (64).

The case assigned to **tanbih** in (64a-b) cannot be an inherent objective case since the LV **kard-an** is unlikely to be able to assign any (fixed) theta-roles (cf. chapter 3). **Tanbih** has all the properties of the objects with structural weak case. I suggest that it receives abstract weak case directly from the DE-verb within V-bar. While Ali receives strong case, *rā*²³.

Otherwise, we have to either assume that **kard-an** in (63) functions as a full verb and assigns inherent case to its thematic DO *kār* "work" (cf. (59), but functions as a LV in (64) and assigns structural weak case to its non-thematic object **tanbih** "punishment". Or else it assigns inherent case to both. Either option is undesirable. Notice that the semantic reading, and syntactic configuration

²³ Grimshaw & Mester (1988) try to bring subcategorization and theta-role assignment in CPs in Japanese together by suggesting that nominal PVs must enter into *theta-role transfer* with the LV *suru* in order to be construed as *arguments* of the LVs. I argue, in chapter 3, that predicate nominals do not have to be construed as arguments of the LVs. I try to divorce the two notions since predicate nominals are never referential and strong while an argument must be referential by virtue of receiving a theta-role from the verb (Chomsky 1981). LVs subcategorize for distinct types of PVs. I will take this to argue that LVs do not and cannot assign theta-roles and the PVs are not thematically related to the LVs.

of the object PVs in (63 (& 59)) and (64) are identical.

The first option would mean that the verb **kard-an** assigns three types of objective cases: (1) strong case, **rā**, in conjunction with a functional category to a strong DO (62); (2) inherent objective case (63); and (3) weak structural objective case (64). Yet the syntactic and semantic properties of PVs in the last two cases are exactly identical.

The second option would require that **kard-an** assign inherent case in (63-64) to the nominal PVs, still undesirable since we suspect that LVs do not assign theta-roles at all. **Kard-an** in (64) is bleached and light. The PVs in (63-64) do not seem to have any specific thematic relationship with **kard-an**.

Yet a third option exercised by Mohammad & Karimi (1992) would be to take the verbs in (62-63) (also (59-60)) as full thematic verbs and distinguish them from CPs with pure LVs (64) (also (65) below), calling the former object+verb phrases and not CPs, and the latter CPs.

This, I believe, is not a plausible analysis. Given the identical semantic and syntactic properties of nominal PVs in both types of compounds and sentences ((59-60 & 62-63) vs. (64-65)), and that N+V compounds of both types function as phonological words carrying one main stress, and both types may enter into identical morphological derivations, in agreement with Ghomeshi & Massam (1994), I consider both types of constructions as CPs.

This analysis is also true for unaccusative LVs. I take **šod-an** "to become" as prototypical of all unaccusative LVs. It is also considered as the auxiliary of passive constructions in MF. **Šod-an** is an inchoative predicate simply asserting a sudden change in the state of the existence of its direct internal complement. Historically it also had a lexical meaning as "go", still used in the north-eastern dialects.

Unaccusative verbs, as claimed by Perlmutter (1978) and Burzio (1986), contrary to transitive verbs, lack the capacity to assign the characteristic case of objects, namely accusative, to their selected D-structure objects. Recall that according to our discussion above (Belletti 1988; De Hoop 1992; Jaeggli 1986) unaccusatives can still license a weak, indefinite object and assign inherent or structural objective case to it. Given that *šodan* can only combine with a predicative PV within V', it counts as a DE-verb (6). CPs with *šodan* count as the unaccusative (passive) alternants of transitive CPs with *kard-an*. Notice the equivalent of (64) above with *šod-an* in (65):

- 65.a Ali (tavasote polis) **tanbih-e** saxt-i **šod** (cf. (64))
 Ali (by police) punishment-EZ hard-indf became
 Ali was punished severely (by the police).
- .b Ali (tavasote polis) saxt **tanbih šod**
 Ali (by police) hard punish became
 Ali was punished severely (by the police).
- .c **tanbih=šod-an**
 punish-become-INF "to be punished"

All the explanations given for the properties of *tanbih* and *kard-an* in (64) and their syntactic/semantic relationship/interpretation apply in (65) for *šodan* and *tanbih*. *Tanbih* receives weak case from *šod-an*, as it did from *kard-an* which accounts for its identical interpretation in (64 & 65). Notice that *Ali*, the specific DO in (64), is subject in (65). This is compatible with the property attributed to unaccusative verbs that they never allow a (pure) external argument as their subject²⁴.

In sum, the configuration for weak case assignment to the predicative, indefinite NPs/PVs in both true LVs (DE-verbs 6) like *tanbih=kard-an* "to punish" (64), *čub=xord-an* "to be punished",

²⁴ All transitive CPs with *kard-an* have a parallel unaccusative CPs with *šodan*. Transitivity of CPs with *kard-an* solely depends on the transitivity of their predicate PVs. If the latter select a direct internal complement/DO, then the DO will function as the direct internal argument/DO of the CPs with *kard-an* as well. This direct internal complement/DO then functions as the subject of the CP formed with *šod-an*.

and unaccusative LVs *tanbih=šod-an* "to be punished" (65), and the so-called thematic verbs like *xord-an* in *qazā=xord-an* (59a & 59c), *dars=xānd-an* "to study", and *lebās pušid-an* "to put on clothes", etc. is the same. Theta-role assignment is irrelevant in the latter set, as it is in the first set, since the so-called thematic DOs actually turn out to function as part of the verbal-predicate, or a *predicate*, as opposed to *arguments*. This is observed from their syntactic behaviour like lack of scrambling; either lack or oddness of passivization; identical syntactic and morphological behaviour and identical semantic interpretation with the PVs of DE-LVs in (6); and their inability to bind overt pronouns after movement.

2.8 Conclusion

This chapter took a semantic approach to the formation and interpretation of CPs in MF. I argued that the semantic nature of PVs in CP-structures is restricted by DE. The VP-internal position of LVs in CP-structures exhibit DR since LVs are *bleached predicates of existence* and induce an existential context into which only weak indefinite NPs/XPs can enter. This was also shown through the existential interpretation the PVs of CP-structures display. I then argued that NPs/XPs in existential contexts behave like *predicates* and their syntactic behaviour can be subsumed under the *predication condition*. They combine with LVs (light verbal predicates) hence the title CP.

I also argued, on the basis of type theory, that the nominal PVs of the CP-structures are of the simple semantic type predicative $\langle e, t \rangle$. I then explored the relation between case and interpretation of NPs. I argued that nominal PVs, as direct internal complements of the LVs, are assigned abstract, weak structural objective case directly by the verb that is concomitant with their weak, existential reading. However, as a final word, I would like to add that the theory of CP-

formation and the distinction between weak vs. strong NPs and predicate vs. argument defended in this thesis are independent from the two types of cases explored here. The former can take care of the CP-structures in MF even if there is no evidence for the viability of the two types of objective cases.

CHAPTER III

Syntactic & Lexical-Syntactic Analysis within V-bar

3.0 Introduction

In this chapter, I will take a syntactic approach to CP-structures. In §3.1, I will show the relationship between the (nominal) PVs and the light verbs (LV) on syntactic grounds, and the properties of V-bar. I argue that the PVs, as subcategorized complements of the DE-verbs, appear in a structurally existential environment, i.e., in the syntactic configuration within V-bar which is the innermost level of the iterated VP projection. I also argue that the PVs, being substantive lexical items, *substantiate* the LVs within V-bar so that V-bar counts as a *Generalized Lexical Integer*, or phrasal CP. To account for the wordhood properties and syntactic transparency of CPs, I will present a syntactic account of the argument structure of the lexical categories. I will present a short review on Lexical Conceptual Structure (LCS) and Predicate Argument Structure (PAS) of verbs and predicates. I will then try to explore the X-bar, syntactic theory of argument structure as proposed by Hale and Keyser (H&K) (1988, 1991, 1993, 1994) called Lexical Relational Structure (LRS). We will see that LRS allows an appropriate account of the lexicalization pattern which has taken place in the formation of CPs in MF. The syntactic X-bar structure in s-syntax, substantiation within V-bar, and the syntactic X-bar structure at the level of LRS and/or morphological structure, and conflation into the V, are quite isomorphic.

3.1.1 SUBSTANTIATION

In chapter 2 we saw that the structure of CPs in MF and in Hungarian (Szabolsci 1984, 1984) can be explained with recourse to the existential nature of LVs and DE. I also claimed that the DE-

complements count as the (direct) internal complements of the LVs and function as predicate (modifiers) with respect to the LVs. The questions that arise are:

- (i) What is the exact syntactic configuration of the DE-complements with regard to the LVs?
- (ii) How are the two combined in syntax and in the lexical or morphological component?

To answer the first question we have to see whether or not the predicative nominals (adjectives, PPs, and VP internal adverbs) which enter into CP-structures count as true arguments of the LVs.

But what is the definition of an *argument* in the first place? Chomsky (1981) defines an argument by recourse to the theta-criterion, as shown in the following:

Thus, we understand NP arguments to be NPs with some sort of a 'referential function', including names, variables, anaphors, pronouns; but not idiom chunks or elements inserted to occupy an obligatory position of syntactic structure. (Chomsky 1981: 35)

We can bring subcategorization and theta-marking together more closely by inventing a new theta-role, call it #, for non-arguments that are subcategorized by heads, e.g., advantage in 'take advantage of... We may now read, e.g., advantage as a kind of argument, call it a quasi-argument. (Chomsky 1981: 37)

According to the theta criterion each argument enters into a chain containing one and only one theta role, and each theta role is assigned to a chain containing only one argument. However, as Szabolsci rightly claims, theta criterion uses, rather than defines, the notion of argument.

If the definition of argument in Chomsky is correct, then the indefinite NPs participating in CP- structures can at most be quasi-arguments, and receive a # role since they are non-referential (cf. Cattell 1984 adopts Chomsky's quasi-theta role for PVs in English CPs). On the other hand, while LVs, by themselves, are bleached and without *substance*/content, a CP is not. *Give a kiss* is equivalent in meaning to *kiss*; *Pardāxt=kard-an* "payment-do, to pay" is equivalent to *pardāxt-an* "to pay". Where does the CP get its *substance* from?

Grimshaw & Mester (1988), analyzing a similar phenomenon in Japanese, claim that *suru*,

a thematically incomplete LV, subcategorizes and case-marks a DO, which forms a CP with the LV, without theta-marking it. For them, the DO/PV does not count as an argument of *suru* since the latter cannot assign a theta role to it, DO/PV. But the DO/PV still has to be construed as an argument of some predicate in order to be licensed. Since theta-marking counts as the sole criterion for argumenthood which renders an NP into a true argument, they try to bring subcategorization and theta-marking together. They do so by suggesting a process of *argument transfer* between the PV and the LV, *suru*. In the process of argument transfer at least one of the internal arguments/theta-roles of the PV is transferred to the LV for theta-role assignment. In other words, Grimshaw & Mester argue that theta-marking in CPs occurs through argument transfer between the LV and the predicate nominal so that they both function as theta assigners (Mohammad & Karimi 1992 adopt this position with regard to CPs in MF). Hence, the nominal PVs end up satisfying the theta-criterion without counting as true arguments of *suru*¹ (cf. § 3.2.1, 3.2.2).

However, there hardly seems to be any good reasons for bringing theta-marking and subcategorization frame together contrary to Chomsky (1981), Grimshaw & Mester (1988), Cattell (1984), and Mohammad & Karimi (1992), except the attempt to maintain the theta criterion. Another line of research would be to attempt to divorce subcategorization frame from the notion of argumenthood, and theta-criterion.

Let us assume with Grimshaw & Mester (1988) and Szabolsci (1986) that LVs verbs, due to their bleached content, cannot assign theta-roles:

¹ Within the minimalist theory of Chomsky (1992,1994) the theta criterion as a principle regulating the relationship between the arguments of a predicate licensed by theta-assignment at the level of D-structure has lost much of its import mainly due to the demise of D-structure itself. Theta-theory and Baker's UTAH may no longer be considered as independent principles of grammar which license the occurrence of arguments, and only arguments, at D-structure (cf. Speas 1990).

1. An empty verb does not assign a (true) theta-role. (Szabolsci 1986:11)

In the standard GB theory, theta roles indicate the referential positions in a sentence, and theta-marked expressions are referential arguments. Let us assume that lack of theta-marking on the part of the LVs turns their complements/DOs to weak, non-referential, non-argument expressions.

Following Szabolsci we claimed that the non-logical *substantive* content of LVs/hamkards is either totally bleached or is backgrounded and the verb is reduced to a logical predicate of EXISTence, plus a CHANGE, or CAUSE operator. Where do the CPs get their *substance* from? According to Szabolsci a LV needs a *substantiator*, and the indefinite designated DO (PV/XP) is taken to function as the substantiator for the LV by entering into the *closest possible syntactic relation* with the LV within V-bar, i.e., predicate modification. That is, the predicative, DE-complements (PVs) behave as substantiators for their subcategorizing DE-LVs.

2. Substantiation:

- (i) Every predicate of natural language must have some non-logical content. Therefore,
- (ii) If the meaning of a predicate contains at most logical constants and variables, it must enter into a "closest possible" syntactic relation with something whose meaning (also) contains some non-logical constant. (Szabolsci 1986:11)

Given ft. (1), the discussion in chapter (2), and the observation that the indefinite DE-complements do not show any properties of referential arguments, i.e., lack of wh-movement, scrambling, passivization, anaphor binding etc, I believe that the insight suggested by Szabolsci (1986:19-20) that subcategorization be divorced from theta-role assignment (at least with respect to LVs) is to be preferred over those of Grimshaw & Mester (1988), Chomsky (1981), and Cattell (1984) who try to bring them together through notions like *argument transfer*, *quasi argument*, and *quasi theta-role*. Szabolsci (1986) cites three advantages for such a move which are integrated in the

analysis of CPs throughout this thesis, and will be independently argued for based on the theory of argument structure/LRS that I follow (cf. § 3.2).

3.1 First, the *projection principle* can now be stated in terms of *subcategorizations*;

3.2 Second, the subject position is subcategorized by INFL, that is by *predication* (cf. Williams 1980; Rothstein 1983) thus discarding the EPP;

3.3 The third advantage, she mentions, for the dissociation of theta-marking from subcategorization is that the lack of theta marking can be associated with the notion *lexical integrity hypothesis*. Szabolsci claims that all DE-complements of the LVs incorporate into the V-bar in Hungarian, and function as verbal modifiers. V-bar functions as a *lexical integer* in Hungarian:

4. Lexical Integers:

Lexical integers are syntactic products which can be "theta-role assigners, but no theta-role assignment takes place, or needs to take place, within them", Szabolsci (1984, 1986), [underlining mine].

Ackerman (1987) argues that V-bar constitutes a CP in Hungarian and the non-verbal element within V-bar functions as a verbal modifier for the verb, and cannot be an argument. Szabolsci (1986) lists the following as the elements/verbal modifiers that occur in a partially incorporated position within V-bar with a verbal stem: (a) affixes acting as argument-taking predicates; (b) subcategorized predicates like stative or change of state verbs that obligatorily take either locative and directional complements or predicate nominals; (c) modals, aspectuals and causatives with infinitival complements; (d) manner adverbials; (e) subcategorized complements of DE-verbs in Hungarian; (f) active V-stems that take an unmodified noun which bears the same case-marker or postposition the verb normally governs. Some useful examples of the latter two types are provided in (5).

5.a Péter [_v újságot olvasott]. (Szabolsci 1986.25)
newspaper-ACC read

Peter did newspaper-reading.

- .b Péter [_v olvasot] az újságot.
read the newspaper-ACC
Peter read the newspaper.

- .c Péter [bélyeg-et gyűjtött]. (Szabolsci 1984.3(e))
paet stamp-ACC collected
Peter collected stamps.

In (5a) the indefinite NP with accusative case has partially incorporated under V-bar, (the same is true for (5c)). In (5b) the definite object must occupy its unmarked postverbal position. Note specifically that the verb stem in (5a-c) is a simple active full verb but still behaves similarly to the other DE bleached existential verbs in Hungarian, and partially incorporates its designated NP under the V-bar whenever it is indefinite.

6. [_v Baj van]. (Szabolsci 1986.28)
trouble-NOM is
There is sm (some) trouble.

In (6) the DE-verb *van* "be" has incorporated its nominative designated NP within V-bar. Similarly in (7a) below the designated nominative-NP does not count as the argument of the DE-verb *érkez* "arrive", rather it is a predicate modifier as we notice by its partial incorporation within V-bar.

- 7.a [[level-ek-ø] [érkez-t-ek] (Szabolsci 1984.35a)
letter-PL-NOM arrive-PAST-3PL

However, Szabolsci (1984) argues that the verbal modifiers within V-bar can occur anywhere in the sentence as in (7b) with a structure as in (7c):

- 7.b Érkezett tegnap levél (Szabolsci 1984.39)
arrived yesterday letter

- 7.c [_s [_v e_i Érkezett] tegnap levél_i] (41)

She argues that the verbal modifier *levél* "letter" is in a non-thematic position within S, forming a

chain with the empty category and in this way substantiates the empty verb. Szabolsci takes the movement of the verbal modifiers out of V-bar to argue for their syntactic status as indefinite NPs/XPs (rather than as N^0/X^0). She argues that if the NP functions as a true argument by virtue of being definite, a chain cannot be formed and the sentence will be illicit as in (7d). The verb in (7d) looks like the verb in (7b), i.e., is empty. It cannot license a true argument and itself needs a substantiator which the definite NP cannot provide. In other words, the DE-verb in (7d) cannot take a definite, true argument as its subcategorized internal complement, and DR is violated.

7.d *_s [_v e érkezett] a levél (Szabolsci (1984.44))
 arrive the letter

Verbal modifiers (indefinite NPs) within V-bar are partially incorporated. Szabolsci (1984: 346) shows that while definite NPs outside V-bar in Hungarian act as true arguments by controlling state-adverbials, indefinite NPs inside or outside V-bar (but connected to an empty category within V-bar) cannot bind the state-adverbials and hence do not function as true arguments. Verbal modifiers do not undergo WH-movement, and their potential to act as the antecedent of overt pronouns is dubious, similar to idiom chunks. No theta-role assignment takes place under V-bar (4), rather V-bar functions as a theta role assigner for elements outside V-bar in the clause.

V-bar is the locus of substantiation and acts as a *generalized lexical integer*.

8. Generalized Lexical Integer (GLI)

If a phrase acts as a theta-role assigner but no theta-role assignment takes place within it, it counts as a generalized lexical integer if and only if

- (i) it is explicitly listed in the lexicon, or
- (ii) it contains no (obligatory) arguments. (Szabolsci 1984, 1986)

GLI is introduced to emphasize the common properties of fixed (complex) "words" and "idioms" and more freely formed, non-listed, combinations like CPs. Clause (8i) takes care of such idiom chunks

like *kick the bucket* where the NP *the bucket* has lost its literal meaning and the idiom as a whole is listed in the lexicon. Assuming that the NP *the bucket* receives a quasi theta-role does not help to justify that it does not participate in any syntactic relationships that true theta-bearing arguments do. Even if the NP of an idiom keeps its literal sense, e.g., *a glance* in *shoot a glance*, it is happy without a theta-role and need not receive a theta-role as long as it does not have to act as a true argument with respect to elements outside the idiom, i.e., enter in anaphor binding relation, etc.

Clause (8ii) entails that an "NP may occur in a non-listed integer if and only if its argumenthood can be questioned on independent grounds" (Szabolsci 1986:22). It takes care of idiomatic but non-listed phrases (=lexical integers) called CPs by Cattell (1984) like *take advantage of*, *take a walk*, *give a kiss*, etc. in English, and the CPs formed within V-bar in MF and Hungarian at s-syntax. That is, even though the nominal PVs in the phrasal CPs (=GLIs) keep their literal meaning and are selected from open classes, they do not receive any theta-roles since the verb stems are light and are incapable of assigning any theta-roles. The phrasal CPs, or GLIs, contain no (obligatory) arguments (8ii). The nominal PVs are *predicates*, rather than *arguments*, and need not receive a theta-role by the assumption in (4)².

² As Szabolsci (1984) notes the GLI (8) also accounts for the *bound variable idioms* like *lose one's way* and *hit in the face*. MF has an abundance of phrasal lexical integers of this type as well. These do not seem to be listed (in the lexicon) but are clearly idiomatic. Other elements, apart from the indefinite NP and the verb stem, may occur under the V-bar and intervene between the two, which then count as an integral part of the lexical integer and must count as part of the phrasal idiom as in (i) below where only the bold items form independent lexicalized, listed CPs, yet the whole V-bar seems to function as a *bound variable idiom*:

- | | | | | | | |
|-----|-------------|-------------|-------------|----------------|----------------|----------------------------------|
| i.a | dast | 'az | čizi | bar | dāšt-an | |
| | hand | from | something | over | have-INF | "To give up something " |
| b | be | 'estaqbāl-e | kesi | raft-an | | |
| | to | welcome-EZ | somebody | go-INF | | "To welcome somebody" |
| c | tan | be | zellat | dād-an | | |
| | body | to | humiliation | give-INF | | "to give up/undergo humiliation" |

While referentiality counts as the unique criterion for argumenthood, and definites are almost always arguments (Chomsky 1981), it seems that indefinites may or may not be arguments. They are not when they occur within V-bar, or are connected to an empty category within V-bar, or are in some way closely related to a bleached or backgrounded verb by filling a subcategorized position of the latter and conform to (8ii), i.e., NP-in-VP in the existential constructions with narrow scope. In this position, they are *predicates* and exempt from the binding conditions, and theta-criterion but are subject to the *predication condition*. However, they may act as arguments in other positions in a sentence as in the subject, DO positions, etc.

In sum, LVs do not assign theta-roles, and lack non-logical substance. In order to be substantiated, they must enter into the *closest possible syntactic relation* with a substantive substantiator. They do so by entering into predicate modification (=theta-identification) relation with their weak, indefinite, subcategorized internal complements without assigning theta-roles to them. Substantiation takes place within V-bar. The process applies to full active verbs as well, whenever the latter take an indefinite complement (probably by analogy with LVs). V-bar acts as an idiomatic *generalized lexical integer*.

3.1.2 Substantiation Within V-bar in MF

In this section, I argue that V-bar functions as a generalized Lexical integer (GLI), and as the locus of substantiation in Persian as well where the predicative PVs substantiate the LVs just like Hungarian above. Similar to Hungarian, this process extends, probably by analogy (Ackerman 1994), to the so-called full verbs (cf. (5) from Hungarian and (59-60) & (62-63) in chapter 2 of MF).

As we recall, from chapter 1, the following types of PVs occur within V-bar in MF (examples

in the form of CP-INFinitives): (a) Adjectives, e.g., *sard=kard-an* "to make cold", *sard=šod-an* "to become cold"; (b) Predicative nominals with independent argument structure, e.g., *pardāxt=kard-an* "to pay"; (c) Common nouns, e.g., *čub=zad-an* "to punish", *šafā=dād-an* "to cure"; (d) Bound and free adverbials, e.g., *dar=raft-an* "to escape", *bar=xāst-an* "to get up"; (e) PPs, e.g., *'az dast=dād-an* "to lose", *taht-e nazar=qarār=dād-an* "to put under surveillance"; and (f) Full, lexical verbs that form CPs with their subcategorized complements (DOs), e.g., *dars=xānd-an* "to study", *'āb=xord-an* "to water-drink".

The unmarked syntactic position for all the distinct types of PVs is V-bar in MF. V-bar is the innermost, and deepest level of the projection of the verb in the sense of Larson (1988). V-bar is the *closest possible syntactic* position adjacent to the head of the LV where the PVs, as $X^{\max}$ s, are base-generated as the sisters of the LV and are c-commanded by its head. The whole PV+V forms a predicate phrase (V'), to the exclusion of the subject, and counts as a *generalized lexical integer* (phrasal CP) in s-syntax. V-bar consisting of a bare PV and the LV normally forms a *phonological word* in MF in that the PV always attracts the stress and destresses the verb³.

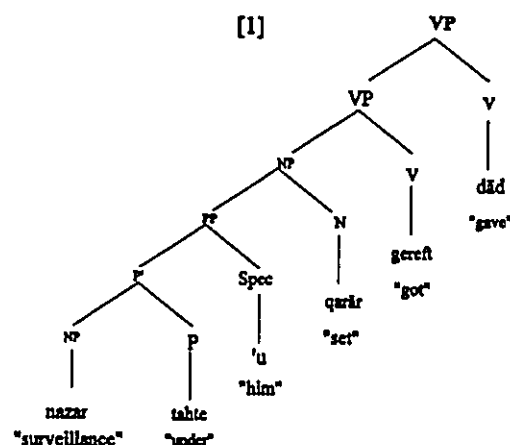
Notice the interesting examples in (9) where we seem to have recursion with respect to the PV. That is, the CPs *qarār=gereft-an* "to be placed" and *qarār=dād-an* "to place, to put" are used to form new CPs with the PP complement of the nominal PV *qarār* "setting".

³Ferguson (1957:133) argues that destressing of the verb occurs even in cases where the "expressions can hardly be classed as compound verbs in the usual sense, but are treated in a similar way accentually". As example he gives: *farsī hārf mizānad* (Farsi talk hit) "He speaks Persian"; and *ū ra peydā kardim* (him visible did) "We found him" etc., which in our theory are cases of CPs. The examples indicate that V-bar functions as a single unit not only semantically and syntactically but also phonologically. That is, the *phonological words* always seem to coincide with the terminal elements of a syntactic tree, V-bar, which is a tight syntactic and semantic unit (see Nespor & Vogel 1986). In §3.2, I will argue that the s-syntactic phonological words, phrasal CPs, also coincide with lexicalized CPs formed through the process of conflation at the syntactic level of argument structure.

9.a polis 'u-rā [_v taht-e nazar qarār dād]
 police him RA under-EZ surveillance setting give.ps.3S
 The police put him under surveillance.

.b 'u [_v taht-e nazar qarār gereft-]
 he under-EZ surveillance setting get.ps.3S
 He was put under the surveillance.

The syntactic representation of the sentences in (9), excluding the functional categories and the external argument *police* in (9a), is provided in [1]. It shows the relation of different elements of the CPs with each other. The higher VP corresponds to the causative LV *dād-an* "to give" and the lower VP to the unaccusative LV *gereft-an* "get". The verbs subcategorize for the



nominal PV *qarār* "setting" as their direct internal argument which has all the properties of a nominal PV and forms CPs with these two verbs. This PV in turn selects an (interrelational) PP complement which resembles a predicative small clause, i.e., [_{sc} 'u (BE) taht-e nazar] "he (be) under surveillance". In [1] *taht-e* "under" is the head of the PP selected by *qarār* "setting". The preposition and its complement, i.e. *nazar* "surveillance" form a semantic and syntactic unit P+NP, i.e., *taht-e nazar* "under surveillance", excluding the subject of the PP 'u "him" which occupies the Spec-P. Note that the P+NP occupies the deepest level of the verbal projection in [1]. In s-syntax, the subject of the PP, i.e., 'u at Spec-P, moves out of the projection of the verb and functions as the specific, strong DO for the causative CP *taht-e nazar=qarār=dād-an* "to put under surveillance" in (9a) or the subject of the unaccusative CP *taht-e nazar=qarār=gereft-an* "to be under surveillance" in (9b). Given the raising of 'u "him" out of VP in (9) and [1], all the other elements within VP have the

properties of predicative PVs defined in chapter 2 and §3.1.1. The syntactic configuration now resembles a V-bar, and the VP functions as predicate phrase (V-bar), i.e., a generalized lexical integer, a phrasal CP, at s-syntax. This is clearly noticeable from the surface sequence in (9) where V-bar is shown in bold and the word order is fixed. The nominal PV **qarār** receives weak structural objective case directly from the verbs within V-bar. The case was overt in Hungarian examples in (5-7) while it is abstract in MF.

Let us see the relevance of V-bar as a *generalized lexical integer* to a full, lexical verb like **nevešt-an** "to write". In (10) below the present stem **nevis** "write" is the suppletive form of **nevešt-an** "to write" a transitive verb. The finite verb **dār-am** "I have" has a progressive function in (10).

- 10.a **dār-am** [_v **nāme** **mi-nevis-am**]
 have-1S letter IND-write-1S "I am writing letters."
- .b **dār-am** **nāme-ro** [t **mi-nevis-am**]
 have-1S letter-RA IND-write-1S "I am writing the letter."

The bare DO **nāme** "letter" in (10a) behaves as a predicate rather than an argument. It has an existential interpretation in that its discourse referent is not linked to an already established referent (Enç 1991; Diesing 1992; & chap 2). I suggest that it is within V-bar and has formed a *generalized lexical integer*, or phrasal CP, with the verb. The combination leads to the lexicalization and formation of a lexical CP, **nāme=nevešt-an** "to letter-write", and enter into other derivational morphology, e.g. **nāme=nevis** "letter-writer" and **nāme=nevisān** "letter-writers", etc.

Even though the verb in (10) counts as a full, thematic verb, by the definition of the lexical integers in (4), it does not assign a theta role to its weak DO in (10a) since the DO does need a theta role. Theta role is assigned to true referential arguments. The DO in (10a) is non-referential and predicative of the type <e,t> and functions as a predicate modifier <e,t>,<e,t>. It enters into theta-

identification (modification) relation with the verb, leading to the merger of the two into a single, joint projection, i.e., V-bar. Theta-identification relation does not lead to the discharge and saturation of the thematic positions, and V-bar has to be saturated by *predication condition*. In this way the subcategorization frame of the full verb in (10a) is dissociated from theta-marking which brings the true LVs and full but backgrounded verbs in CP-structures together.

The unmarked position for the weak DO in (10a) is the position adjacent to the verb (chap I-II). The lexical meaning and the aspectual type of the transitive verb in (10a) is *backgrounded* and it is changed to a one-place function of *letter-writing*. The DO in (10b) is a strong NP, GQ, with a pre-established familiar referent and denotes a two-place relation between a subject and an object. It has strong case, *rā/ro* (see Hopper & Thompson 1980).

I see no difference between (10a) and (11) where the verb is assumed to be a LV and lacks the property of theta-marking. The semantic type, semantic interpretation, case-marking of the PV, and the semantic relation between the nominal PV and the LV, as well as the syntactic configuration in (11) is in every respect identical to those in (10a). The only difference might be that the PV in (11) functions as a substantiator of the LV in (11) while the nominal PV in (10a) does not actually substantiate the verb. Rather it causes the lexical meaning, the adicity or the semantic aspectual type of the verb, in the sense of Dowty (1979), to be backgrounded and reduced. No theta-role assignment need to be involved in (10a) and (11) since in both the nominal PVs are predicates and are subject to *predication condition* as opposed to referential arguments subject to *theta criterion*.

11. Ali [_v gerye kard]
 Ali crying did-3S "Ali cried."

The change in the aspectual class and the aktionsart of predicates can be tested by time

adverbial modifiers (Dowty 1979). The shift or remaining in the *canonical object position*, within V-bar, affects the aspectual class/adicity of the predicates, and functions as a major factor in the formation of CPs in MF.

I take transitivity of a predicate to be a scalar notion as defined in Hopper & Thompson (1980) affected by different elements and syntactic factors in the (transitive) clause. Thus, the degree of volitionality, agency of the subject, punctuality, the degree of affectedness of the object, presence of subcategorized VP complements, (a)telicity, and the number of participants can affect the degree of transitivity of a predicate and the clause (see Ghomeshi & Massam 1994 for a good application of the notion to Persian, and Hopper & Thompson 1980). I take what Ghomeshi & Massam (1994) refer to as *syntactic canonical object* position as the position occupied by the weak objects, and the PVs in CP-structures within V-bar.

As discussed in Ghomeshi & Massam (1994) with respect to Persian, time adverbials with *in*, frame adverbials (*in an hour*), indicate that the predicate or sentence denotes an accomplishment (or achievement) while durative modifiers, *for-phrases* (*for an hour*), indicate that the event is a process/activity (cf. Dowty 1979; Vendler 1967; Van Valin 1990, 1993). Applying these tests to the examples in (10) & (11) illustrates that (10a & 11) must be regarded as atelic, activities or processes while (11b) denotes a two place, delimited, telic predicate and/or accomplishment. (I have deleted the progressive *dār-am* and *mi-* in (10) which affect the test, and have used past tense):

- 12.a ??dar panj daqiqe nāme nevešt-am
 in five minutes letter write.ps-1S
 I wrote letters in five minutes.
- .b nāme-ro dar panj daqiqe nevešt-am
 letter-RA in five minutes write.ps-1S
 I wrote the letter in five minutes.

13. *Ali dar panj daqique gerye kard
 Ali in five minutes crying did-3S
 Ali cried in five minutes.
- 14.a be moddat-e panj daqique nāme nevešt-am
 to time five minutes letter write.ps-1S
 I wrote letters for five minutes.
- .b *nāme-ro be moddat-e panj daqique nevešt-am
 letter- RA to timein five minutes write.ps1S
 I wrote the letter for five minutes.
15. Ali be moddat-e panj daqique gerye kard
 Ali to time five minutes crying did-3S
 Ali cried for five minutes.

The CP in (10a) patterns with the unergative CP in (11) and both seem to indicate an atelic, unbounded, one place activity of *letter-writing* and *crying* (an unergative in English) while the CP in (10b) looks like a telic, two place function between a subject and a delimiting object that measures out the activity of the verb (Tenny 1987), a transitive predicate. It is in this sense that I suggest the aspectual type of the transitive full verbs in the CP-structures in MF is *backgrounded* and their adicity reduced to a one place atelic activity (see Hopper & Thompson 1980 for more diverse evidence).

In sum, the NP within V-bar is a predicate and not an argument and need not receive a theta role by the definition of lexical integers in (4) & (8ii) in the case of full verbs, just like those with bleached LVs. This leads to the suggestion that the distinction between the weak NPs within V-bar in the CP-structures and strong NPs outside V-bar be reduced to *argumenthood* vs *non-argumenthood*, or *arguments* vs. *predicates*. We can then proceed one step ahead from the definition of GLI in (8) claiming that the specification of theta-role assignment in the definition of GLI is redundant altogether:

16. Generalized Lexical Integer

A phrase acts as a generalized lexical integer in s-syntax if and only if

- (i) it is explicitly listed in the lexicon, or
- (ii) it contains no (obligatory) arguments.

This definition dispenses with the notion of theta-role assignment as a diagnostic for the argumenthood and referentiality of NPs which is now independently recognized on syntactic and semantic grounds. The syntactic configuration of V-bar may differ depending on the categorial properties of the PVs as described in §3.2. In any case the PV is directly c-commanded and governed by the verb.

3.1.3 Specificity Effect vs. Definiteness Effect

The terms (non-)specificity and (in-)definiteness are used loosely and rather interchangeably in chapters 2 and 3. However, the MF and Turkish data argue that specificity rather than definiteness is the determining factor. Enç (1991) argues that the explanation of the relevant NPs occurring in existential constructions in terms of the syntactic and semantic types of their determiners is inadequate and misses significant generalization. Like Milsark, and contrary to Safir (1985), she argues that the relevant notion is specificity in English and Turkish and suggests that the term Definiteness Effect is inappropriate and inadequate to capture the difference between the two types of NP interpretations.

The Persian data analyzed in chapters 2-3 confirm her findings that indefinite NPs may be specific or non-specific. In the former case, they function as *true referential arguments*, with a pre-established, and presupposed set, and appear either in DO or the subject position. In the latter case, the indefinite nouns in object position (might) seem to introduce discourse referents, but are still non-referential, and behave as *predicates*. They occur within V-bar and have narrow scope within VP,

thus their existential reading (see the discussion under (59-60) & (62-63) in chap 2; Karimi 1989, 1990; Brown 1970).

Our analysis is compatible with Enç (1991) in that specificity rather than definiteness is the relevant notion in existential constructions, and in CP-structures of MF. In my analyses above, the term DE can be replaced by Specificity Effect (SE) without any bearing in the force of the arguments.

However, I have tried to draw a line between two types of readings under the notions *weak* and *strong* nouns as suggested by de Hoop (1992) (cf. Milsark 1974). Nouns with weak determiners, (weak nouns), may occur in syntactic positions that causes them to function as strong (quantificational $\langle\langle e, t \rangle, t \rangle$, or referential $\langle e \rangle$) nouns. Weak NPs have an existential, or cardinal interpretation. Strong nouns may also appear in syntactic positions that causes them to have a weak, existential reading. Strong nouns are taken to be true arguments with partitive, collective generic, generic, referential, and quantificational readings (implying a presupposition of existence). They must move out of VP in order to take wide scope. The morpheme *rā* was argued to mark strong objects at a position adjoined to VP (see recent work by Ghomeshi 1996 who takes *rā* as a sign of presupposition and a case assigner). The strength of objective nouns have a bearing on the aspectual type, telicity and degree of transitivity of their dominating verbal heads. I will, however, keep on using the terms strong and weak and the term DE throughout the study.

3.2 The Argument Structure of CPs

3.2.0 Introduction

The analysis so far takes care of the syntactic properties of CPs by proposing V-bar as a *phrasal generalized lexical integer*. In order to account for the morphological properties of CPs, I argue for

a lexical-syntactic level of argument and/or morphological structure for CPs that is isomorphic to their surface-syntactic representation. This level imports the familiar syntactic, X-bar formats into the lexical component, called *Lexical Syntax* or *l-syntax* by H&K (1991). There is a l-syntactic level of V-bar associated with the s-syntactic V-bar. The elements of CPs, within V-bar, are easily separable; the PVs have $X^{\max}$ status, and are not incorporated into the LVs at s-syntax. But, the head of PVs, being X^0 -level items, conflate/incorporate into their governing verbs and form compound $[X^0+V^0]_{V^0}$ heads at l-syntax, corresponding to phrasal V-bars at s-syntax. This, then, accounts for the fact that CPs have the properties of both syntactically-formed compound phrases, i.e., syntactic words, and properties of morphologically-derived synthetic compounds. While CPs share the basic syntactic structures at the two levels, my aim is to show that CPs are essentially syntactic products initiated in the s-syntactic (or syntactic computational) component, and are subject to surface syntactic constraints. Definiteness and indefiniteness are s-syntactic, and discourse terms have no place in l-syntax. Lexicalization and conflation of CPs is accomplished after the s-syntactic, phrasal CPs are formed. That is to say, I assume that word-formation and compounding may also take place after, and parallel to the syntactic derivation. I also assume that morphological and word-formation component is a subpart of the l-syntax.

3.2.1 Lexical Conceptual Structure: A Lexico-Semantic Level of Representation

Levin and Rappaport (L&R) (1988), and H&K (1986, 1987, 1988) following the initial idea of Jackendoff (1983), propose a level of Lexical Conceptual Structure (LCS) representation which indicates the lexico-semantic properties of lexical items. The LCS of a verb/predicate indicates the grammatically relevant components of its meaning, and names the particular action/event denoted by

it, where the arguments of the predicate are represented by variables. As Jackendoff (1983, 1987, 1990, 1991) in related works, H&K (1986, 1987, 1988, 1991), L&R (1986, 1988), and Rappaport, Laughren & Levin (1987) have shown, the components of meaning in the LCS make no reference to theta-role labels. In other words, theta roles are not primitive elements of the LCS or our linguistic knowledge in general, rather they are simply convenient annotations definable in terms of the type of semantic relations that arguments of a predicate bear with respect to their main predicator, and with respect to each other in the LCS. The LCS of the verb *cut* from H&K (1987: 8) is given below:

17. CUT: [x cause [y develop linear separation in material integrity], by sharp edge coming into contact with latter]

The *central event* in (17), the subevent in the inner brackets, "represents the circumstance in which some entity, the y-participant, undergoes the change from not having to having a separation (of a certain description, i.e., *a cut*) in its material form" (H&K 1987: 8). Verbs with LCSs similar to (17), i.e., the LCS of ergative alternation verbs like *break*, *open*, *split* and verbs like *cut* which participate in middle formation, have the characteristics that their *central event* can be realized without the participation of an external agent/force, i.e., the superordinate cause, *x cause* in (17). Thus we can have *the door opened* corresponding to the central subordinate event in (17) as opposed to *he opened the door* that corresponds to the whole LCS in (17).

A property of LCS proposed in the literature on lexical semantics is the idea of predicate decomposition where the components of meaning of a verb/predicate divide into internal substructures or subevents delineating more fine-grained properties of a verb's meaning. The internal subevents consist of a number of primitive function-denoting elements, such as BE, CAUSE, BECOME, COME, GO, EXIST, AT, ONTO, etc., which denote the *primitive functions* or

conceptual elements of the conceptual structure. The LCS expressed in (17) is in ordinary English prose, and not in terms of *primitive functions*.

The relationship between these subevents is asymmetric in that one is subordinate to, or dependent on the other. This asymmetry is "directly reflected in the syntactic projection which defines the organization of verb's arguments as internal or external" (H&K 1987: 46) at the level of argument structure, and ultimately as subject, DO in sentential syntax.

3.2.2 Predicate Argument Structure (PAS): A Lexico-Syntactic Level of Representation

Predicate argument structure (PAS) was proposed in order to exhibit the lexico-syntactic, and argument-taking properties of predicators/lexical items (L&R 1988; Rappaport, Laughren, & Levin 1987), i.e., a list of theta-roles, or the theta-grid (Chomsky 1981; Stowell 1981); argument structure (Grimshaw 1990); affected tier (Jackendoff 1990); and lexical structure (H&K 1986, 1987, 1988).

The mapping of variables from the LCS into the syntax is mediated through the PAS. It indicates the number of arguments of a predicate by use of variable notations. The PAS reflects the hierarchical relationships among the decomposed components of an item/verb and its arguments at LCS. That is, the variables in LCS are hierarchically organized in PAS for appropriate mapping into syntax. Thus, PAS, in the standard sense, distinguishes between direct versus indirect internal arguments on the one hand, and between internal versus external arguments on the other. The LCS and PAS of the verb PUT is given below where the *primitive functions* are in capital, and the participants are given in small letters denoting variables in LCS.

- | | | | |
|-----|-----|---------------------------------------|------------------------------------|
| 18. | LCS | PUT: [x CAUSE [y COME to BE AT z]] | |
| 19. | PAS | PUT: x < y P _{loc} z > | Rappaport, Laughren & Levin (1987) |

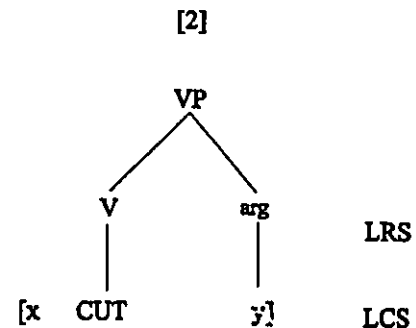
Put has been decomposed into two subcomponents, i.e., CAUSE, and COME, an inchoative event. The PAS shows the external argument/theta-role outside the notation <>, it is assigned/realized by the whole VP or through predication. The direct internal argument/theta-role is *y*, the first variable within <>, and the *location* is assigned through the locative preposition.

PAS is not adopted as the lexico-syntactic, and argument structure representation of CPs and lexical items in this work, mainly because I argue that PAS of CPs is not mapped/projected from the lexical to the syntactic component. However, I accept that a level of syntactic argument structure apart from LCS is necessary.

3.2.3 Lexical Relational Structure (LRS): A Lexical X-bar Projection of Verbs/Predicates

In search for the manner of mapping of variables from LCS to syntactic structure, and how the variables end up as internal or external arguments, H&K (1986) introduce a new notion of theta-grid/PAS where PAS is identified with the notion of lexical structure. Their lexical structure is "an abstract syntactic projection of the verbal lexical item, embodying the basic syntactic organization of its arguments" defined by X-bar theory. The LCS and lexical structure of the verb *cut* is given in [2], from H&K (1986: 23).

[2] shows the way the arguments of the predicate *cut* are represented in the lexical structure, or argument structure. It is isomorphic to s-syntactic X-bar projection of *cut* in that the verbal head takes an argument/complement which it c-commands. An important difference with PAS is that subject/external argument of *cut* is not represented in lexical

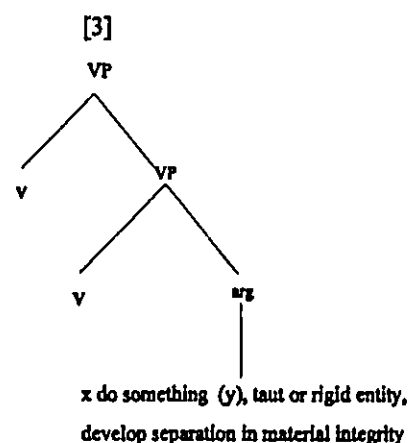


structure [2] since it is external to the verb phrase.

Lexical structure or Lexical Relational Structure (LRS hereafter) is a purely syntactic level of representation showing structural relations between a lexical head and its arguments in syntactic terms. The grammatical functions (GF) of the arguments of a verb are defined with respect to their structural positions in LRS. In [2] the patient argument, *y*, is *committed* to the object GF, while the agent argument, *x*, is *uncommitted* to a GF in LRS and is therefore destined to be assigned externally (H&K 1987:7).

LRS takes the notational form of syntactic trees defined by X-bar theory. As H&K (1991: 13) note "like d-structure, LRS representations involve the notions category, projection, government (and complement), adjunction, and specifier." The major lexical categories correspond to the traditional parts of speech V, A, N, P; certain functional categories like the Kase Phrase of Fukui (1986) are also involved in the LRS representation. In other words, LRS representations import "most aspects of syntax in the more 'general' sense", and are thus subject to general principles of syntax. LRS is assumed to be a part of the intuitive knowledge of the native speakers of a language and reflects the basic concepts native speakers have of the lexical categories and their argument structure configurations in mind.

The LCS and LRS of the verb *break*, is given in [3] from H&K (1988: 47)⁴. [3] is the LCS and LRS for both the ergative



⁴The diagram in H&K (1988:47 (9)) lacks the upper VP projection in [3] and corresponds to the central event of the ergative verb *break* in the LCS only. I have added the upper VP corresponding to the superordinate event, the transitive *break*. This modification does not affect their argument, and is in fact on par with the development of their theory in H&K (1988, 1991, 1993) as we will see presently.

(INCHoative), monadic *break* (the lower VP), and causative, dyadic *break* (higher VP) as in (20a-b) below:

- 20.a The pot broke.
- .b John broke the pot.

In both examples in (20) the *y* variable in the subordinate, central event, i.e., *pot*, occupies the internal argument/complement position of the lower ergative verb (VP) in the LRS [3]. The external variable of the causative superordinate event, *x*, is not projected at all to LRS in [3]. Both the lower and higher verbs in [3] lack a specifier projection at LRS. Specifier or subject of the *category verb* is a s-syntactic phenomenon required by predication (Williams 1980; Rothstein 1983) and is not projected at LRS.

In this theory, theta-role assignment is defined as the association between a variable in LCS and a GF position in the LRS. Internal arguments (variables in LCS) are known as *committed* arguments because they are associated with a GF position within the projection of the verb/VP at LRS. The, *x*, external argument is not committed, or is *uncommitted*, to a GF because no GF position is available for it to be associated within the VP in LRS (since verbs are not predicates at LRS). It is free and may be committed/associated to a GF in s-syntax if the verb combines with INFL at s-syntax, i.e., through predication, otherwise it may remain uncommitted.

The immediate question that arises is: how is the external argument of monadic, unergative verbs like *sleep*, *jump*, *laugh*, etc., represented? What is the LRS of these verbs? To answer this question, let me introduce the LRS of the *universal lexical categories* adopted in this thesis from H&K (1994). They propose [4] as the characteristic lexical features of the major lexical categories at the level of LRS or l-syntax. Note that the correspondence between the traditional parts of speech,

given within "..." in [4] and what H&K (1994) name universal categories is not one-to-one.

In [4] the lexical head defined by the notation [+complement], [-subject] corresponds to the structural fact that the head stands in the structural immediate sister relationship to its complement, and requires no subject.

The property of being [-subject], [+complement] is mainly a characteristics of verbs in English, and in most of

[4]

The Lexical Categories:

	+subject	-subject
+complement	"P"	"V"
-complement	"A"	"N"

the world's languages, that is why it is shown by the part of speech notation V in [4]. This universal category, in addition to almost all verbs in English, also includes the *complex event nominals* of Grimshaw (1990), i.e., *destruction*, *removal*, and the "process" use of English gerunds, and predicate nominal PVs in MF. This category may be variously realized in the actual morpholexical categories of the world's languages. The *universal lexical category verb* is not a predicate at l-syntax, and hence its subject need not project at LRS (see H&K 1991: 55-61 for detail). Subject is a s-syntactic requirement for this category licensed by predication under INFL⁵.

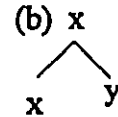
The lexical head characterized by the features [-complement], [+subject] in [4] is an inherent predicate, and requires a subject, but no complement. This category corresponds to the part of speech *Adjective* in English, but may be represented by other parts of speech in English or other languages as well. The categorial features of the *universal lexical categories* (in the form of X-bar schemata), which are assumed to be *primitives* of the theory, is given in [5] (H&K 1994: 25, (58)).

⁵This confirms our discussion on substantiation in section 3.1 where we argued, on grounds totally independent of the issue at hand here, for the statement of Projection Principle in terms of subcategorization; association/subcategorization of the subject position with INFL, and dissociation of subcategorization frame from theta-role assignment.

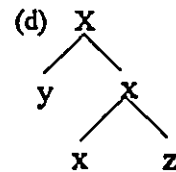
In [5], *x* stands for the head of a primitive lexical category, and *y*, and *z* correspond to its arguments. The lexical items of the primitive *category noun* are shown by (a); of the *category verb* by (b); of the *category adjective* by (c); and of the *category preposition* by (d). A noun, (a), has a maximal projection that dominates its head, and nothing else, thus it is shown by the features [-subject], [-complement] in [4]. The maximal projection of verbs, (b), dominates its head, *x*, and the sister complement *y*. Adjectives, (c), are inherently predicates and have to be predicated of a subject, so they need a specifier projection, at LRS.

[5]

(a) *x*



(c) *y / x*



The head of an adjective cannot dominate its sole argument, i.e., its subject/external argument, thus provisionally shown as in (c), (for more detail on the LRS of adjectives see H&K 1994). Prepositions, (d), are relational, and relate a complement to a subject, hence project to a complement and a specifier at LRS. This shown by [+subject], [+complement] in [4]. I take [4] and [5] as the basic and common syntactic representation of lexical items at both LRS and syntactic computational levels.

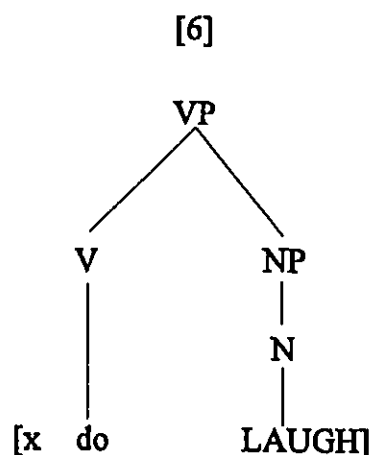
What are the repercussions of this theory for unergative verbs? According to [4], and [5b], the lexical category verb, including the monadic, unergative verbs, i.e., *laugh*, *sleep*, *jump*, etc., must also take a complement and no subject/external argument at LRS. H&K (1988: 48) argue that:

the LCS of unergative verbs is similar in essence to the overt morpho-syntactic representation of members of the unergative class in Basque. In that language ergative verbs consist of the transitive verb corresponding roughly to English *do* combined with an inherent partially "incorporated" object nominal denoting the action denoted by the verbal expression.

The LCS and LRS of the Basque *laugh+do*, roughly corresponding to English simple unergative

laugh, from H&K (1991: 56, (31)), and H&K (1988: 48, (11)) is given in [6]:

The standard argument variable, *x*, in the LCS [6] is not represented at LRS, because it is not *committed* to an internal GF position at LRS. *X* only projects to a syntactic subject position in combination with INFL. LAUGH, the *restricted* variable corresponds to the relevant action and acts as a tacit object of the verb *do*.

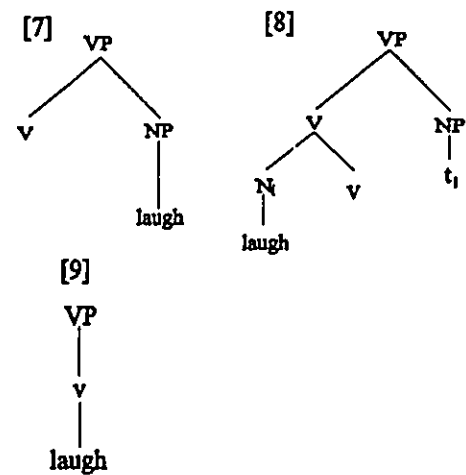


The *restricted* action variable, LAUGH, in the LCS [6], is dependent upon the actor/agent, *x*, in that it cannot be realized without the actor. In this way H&K (1988) try to show the asymmetry between the unrestricted variable *x* and the restricted variable LAUGH, ensuring that only the latter, and not the former, can occupy the complement position in [6]. Note that the LCS in [6] consists of only one event corresponding to the main event in [3]. The *restricted* variable, LAUGH, in [6] corresponds to the general variable *something* in [3], or *y* in [2] & [5b].

The LRS of the simple unergative *laugh* in English is given in [7], [8], [9] from H&K (1991: 31). They argue that the actual LRS of an unergative verb, like *laugh* in English, is derived through a pattern of lexicalization, called *conflation* by Talmy (1985), a variant of head-to-head movement, or incorporation at l-syntax, which derives [8] from the initial verb-object structure [7]. [8] is licit since it observes all the conditions on head-to-head movement, and antecedent-government of the traces, the ECP, as in Travis (1984), and Baker (1988).

Notice that [7] is analogous to [6], *laugh+do* of Basque, with the difference that in the latter the head of the V is filled with a LV like *do*, but in [7] it is an abstract empty verb. In [8] the head of

the DO (in [7]) incorporates into the abstract empty verb and forms an abstract complex head, a single syntactic and semantic unit corresponding to the verb *laugh* of English. This derivation preserves the hypothesis in [4] & [5b] that all verbs (monadic and dyadic ergatives, monadic unergative, and simple transitive verbs) have identical LRSs. That is, all verbs consist of a sole complement and a head, but no specifier or subject at l-syntax.



H&K (1990: 37) also argue that the full derivation of the unergative verbs, [8], is visible/available in l-syntax, and forms part of our "integral and accessible" knowledge of lexical entries. However, it is not clear, rather is doubtful, that the full derivation with the traces are accessible/visible at s-syntax as well. They thus suggest [9] as the s-syntactic representation of *laugh* before combining with INFL.

Persian, similar to Basque, exhibits a productive set of unergative CPs formed from a nominal denoting an action, and the LV *kard-an* "to do", *xande=kard-an* "laugh+do, to laugh". I suggest that they have a LRS like [6] of Basque. The morphological wordhood of the CPs in Persian (and in Basque) can be accounted for by assuming that the (nominal) PV, conflates into the verbal head in an instance of head-to-head movement, or incorporation, and forms a complex lexical head as in [8] at LRS. No such conflation occurs in s-syntax, hence the corresponding phrasal CPs.

The representation of lexical items in s-syntax is isomorphic to l-syntax, but need not be necessarily so. That is, the former need not mimic the detailed l-syntactic representation and

derivation, as far as the s-syntactic derivations do not violate the constraints, conditions, and principles according to which the l-syntax is derived, i.e., [4] & [5] above and the principles that map variables from LCS to LRS.

3.2.4 Conflation as a Lexicalization Pattern

An important consequence of the syntactic argument structure/LRS is its use to reveal the patterns of lexicalization, or the systematic meaning-to-form relationships in languages, known as *conflation* coined by Talmy (1972, 1985). Conflation is a process of lexicalization at the lexical level/LRS that reveals regular associations between particular meanings and particular surface forms and/or grammatical patterns. As Talmy (1985: 59) notes:

The study of lexicalization, however, must also include the case where a set of meaning components, bearing particular relations to each other, is in association with a morpheme, making up the whole of the morpheme's meaning. In the clearest case, one morpheme's semantic make up is equivalent to that of a set of other morphemes in a syntactic construction, where each of these has one of the original morpheme's meaning component.

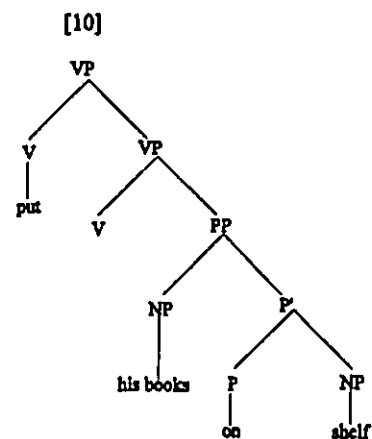
Conflation, incorporation of an object, a *cognate object*, into an abstract empty verb in the formation of the classical unergative verbs, like *laugh, jump*, [7-9], is extended in the work of H&K (1991, 1993, 1994) to account for the underlying lexical structure and formation of locatum verbs like *saddle, carpet* (the floor), *salt* (the food); location verbs like *shelve, ground, jail* ...; de-adjectival verbs as *flatten, redden, tighten, darken, lengthen*, and verbs copied from an adjectival root like *clear*; weather verbs like *rain, snow, thunder, lighten*; verbs of harvesting like *hay, berry, fish, whale, crab*; and the unergative verbs of animal birth-giving as *foal, fawn, calve, pup, lamb, wether* (see H&K 1994, and Hale et. al. 1994 for similar derived lexical formations in Igbo and O'dham).

Conflation observes the familiar constraints on s-syntax incorporation (Baker 1998) in that

agents, recipients, external arguments, and specifiers cannot incorporate, due to constraints on head-to-head movement and the ECP, but VP-internal items, including the complement of unaccusatives, may do so.

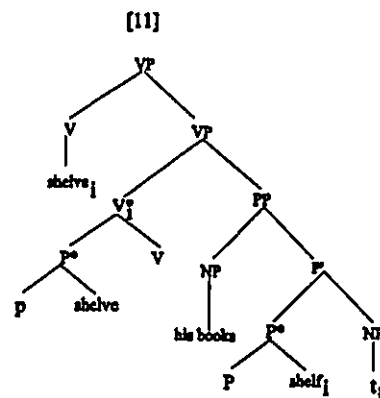
I discuss the formation/conflation of location denominal verbs like *shelve* (put on the shelf), *box* (put in a box), *bank* (put/deposit in a bank), *jail* (put in a jail) here. The analysis extends to other groups, above, as well. The following examples are taken from H&K (1991: 1):

- 21.a John put his books on the shelf.
 .b *John put the shelf his books.
 22 John shelved his books.



The LRS for (21a), is given in [10], from H&K (1992, 1993), with minor alterations to make it compatible with H&K (1994) and the proposal advanced in [4] & [5]. The inner PP, a stative interrelational predicate, states a relation between a subject in [spec-PP], *his books*, and a complement, *shelf*. The lower VP corresponds to a dynamic change of location event. The upper VP is a causative/transitive verb taking the lower event/VP as complement. (21b) shows that *put* does not make a double object construction, contrary to *give*. The LRS of (22) is analogous to LRS of (21a), [10], with the exception that the heads of the PP and VPs are abstract in (22), projecting only categorial features, i.e., head, complements and specifiers (if any), and the structural relation between them.

The formation of the verb *shelve*, (22), through conflation, is given in [11]. *Shelf* occupies the complement



position of the abstract P in LRS [11]. It conflates into the head of the P, then the complex head conflates into the lower change/motion event verb, and the new complex into the higher abstract causative verb to give the verb *shelve* at LRS. The path of movement is shown by the subscripts. Every step of movement satisfies the head-to-head movement constraints (Travis 1984), and s-syntax incorporation (Baker 1988). The path of movement conforms to the observation by H&K (1991: 1) that conflated verbs in this class incorporate the concept of induced motion, or physical transfer, (trace of the lower verb), and the locational goal of motion (the end-"place" *shelf*), and also the cause notion (the higher verb). Conflation into the lower V in [11] gives the middle use of *shelve* such as *these books shelve easily* while conflation into the higher V gives its causative use in (22).

His books in [11], in the Spec-PP, counts as the internal argument of both middle and causative *shelve*, which takes care of the observation by H&K that middles are a type of unaccusative whose subjects count as their underlying internal arguments. It functions as the subject of the middle, but the DO of the causative *shelve*. There is no case of a conflated verb where an NP in the Spec of a category, say the Spec-PP in [11], might be able to conflate into a higher verb since this would violate the basic principles of head-to-head movement (Travis 1984).

Thus we note that the LRS, in addition to containing the lexical parts of speech, actual morphemes, variables x, y, z, and their lexical or categorial properties/relationships, etc., also contains abstract empty heads, i.e., V, P, which are involved in the formation of conflations like *shelve*, *saddle*, *jail*, *flatten*, and unergative denominal verbs, *laugh*, etc. These empty heads define *pure relations*, or categorial features like government relations, heads, specifiers, and arguments and lack any semantic content just like LVs. In other words, abstract empty heads are the phonologically-null equivalents of LVs.

My aim is to show that the conflation patterns like the above examples can be extended to reveal the argument structure, LRS, and the wordhood of CPs in MF. In MF the procedure is much more productive, overt and thus convincing than the conflation patterns in English.

3.2.5 Evidence from Modern Farsi

MF has two sets of result nominals that both have corresponding simple verbal stems, and at the same time appear in CP constructions with *kard-an*, *zad-an*, etc. These simple nouns are of the notional/ conceptual type an *instance*, *entity*, or *token* (as opposed to *type*). They are classified, very tentatively, into two subgroups, depending on whether the nominal is deverbal or not, though both function identically.

Sadeghi & 'Arzhang (1980: 124, vol. 3) argue that the nominals in the first group (23), the 1st column below, are formed by adding the deverbal suffix *-e* to the present verbal stem changing the verb stem into a noun. Thus in (23c), the present verb stem *xand-* "laugh" (a bound morpheme mainly used to form different present verbal conjugations) is changed into a noun, *xand-e* "laughter, laugh", by adding the suffix *-e*. This procedure is correct for all the members of (23).

The present stems of verbs is turned into past verbal stems by adding the suffixes *-id*, *-d*, *-st*, *-t*, *xand-id-* "(he) laughed" in the case of (23c). The infinitive (=masdar) suffix *-an* is then added to past stems to form the nominal infinitives (=masdars) as shown in the 3rd column of (23), *xand-id-an* "to laugh" (23c).

The second column in (23) shows that the nominals formed by *-e*, in the 1st column, may combine with LVs to form CPs with slight aspectual and stylistic difference from the simple verbal stems in the third column. Thus MF has both the simple verbal stem *xandid-an* "to laugh", (23c) 3rd

column, like English *laugh* and the CP **xand-e=kard-an** "do+laugh, to laugh", (23c) 2nd column, similar to Basque.

23.a	'andiš-e thought	'andiše kard-an thought do-INF to think	'andiš-id-an to think
.b	gery-e weeping	gerye kard-an weep do-INF to cry	gerist-an to cry
.c	xand-e laughter	xande kard-an laugh do-INF to laugh	xand-id-an to laugh

Other members of this set are **nāl-e** "cry", **sorf-e** "cough", **larz-e** "shivering", **bus-e** "kiss", etc., with the same alternation possibilities as in (23).

However, I am not totally convinced that formation of the nominals in the first column of (23), by addition of **-e** to the present verbal stems is necessarily the correct track. It could be alternatively argued that the nominals ending in **-e** are the original roots, i.e, **xande** (23c). The past stems and infinitives (=masdars) are derived by adding the endings **-id-an**, **-d-an**, **-st-an**, **-t-an** to the nominal roots. Since successive vowels are prohibited in MF, the final **-e** of the nominals deletes, giving rise to the respective past stems and masdars in the third column of (23).

If this is an acceptable analysis, then we may argue that the nominal roots in the 1st column of (23) originate as the DO (*cognate object*) of an abstract empty verb at the LRS level. The simple unergative verbs in the 3rd column of (23) are derived through conflation of the nominal roots into an abstract Verb head, just like the analysis for the English *laugh* in [7]-[8]-[9] above.

The CPs, in the 2nd column of (23), formed from the same nominal roots and a LV strongly support this analysis. That is, we propose an identical LRS representation and derivation for simple

verbal stems and CPs in (23). The only difference is that in one case the head of the LV is abstract (3rd column) while for CPs the head of the LV is phonologically filled (2nd column).

The second set of simple event or result nominals, which are at the same time homophonous with the present stems of a corresponding verb, more clearly favour my analysis, as in (24) below:

24.a	kuč migration	kuč kard-an migration do-INF to migrate	kuč-id-an Migration-ps-INF to migrate
.b	časb glue	časb zad-an glue hit-INF to glue	časb-id-an glue-ps-INF to stick
.c	jang war	jang kard-an war do-INF to fight	jang-id-an war-ps-INF to fight

Other members of this set are šāš "urine", dow "jogging", tars "fear", par "feather", guz "fart", razm "battle", etc. The reader should be able to form the 2nd and 3rd columns, except that he/she might not choose the proper LVs in the 2nd column.

All the nominals in the 1st column of (24) at the same time count as the present verbal stems from which the past stems and masdars are derived by adding the respective suffixes (3rd column of 24). However, it seems more difficult to decide whether the noun roots in (24) are derived from the present verb stems, or the other way round. Sadeghi & 'Arzhang (1980: 130, vol. 3) claim that the present stems and past stems of some verbs may also be used as process or result nominals. They probably mean that the nominals are derived from the verbal stems, but they do not discuss the details of the derivation.

Based on historical and diachronic evidence, the nominals in group (23) are argued to have been derived from their respective verbal roots, but no such claim can be or has been made for the

members of the group in (24)⁶. I believe that there is a strong probability based on the CPs in the 2nd column of (24) (and also 23) that the simple verbs in the 3rd columns of (24) (and(23) are formed by conflation from the nominal roots in the manner described above for *laugh* [7]-[9]. That is, the verbal stems are derived from the nominal roots in (23-24) by conflation of the latter into an abstract, empty verb. Below I suggest the formation and the LRS for the sentences (25) corresponding to (24c). The analysis is equally extendable to the other members of the group in (23-24). In (25) *jang* "war" is a simple free nominal root:

- 25.a 'ānā dār-and mi-**jang**-and
 they have.prg-3pl IND-war.pr-3pl "They are fighting."
- .b 'ānā dār-and **jang** mi-kon-and
 they have.prg-3pl war IND-do.pr-3pl "They are fighting."

As we see in the LRSs [12]-[13], corresponding to (25b) and (25a) respectively, the simple verbal stem *jang*-(*id-an*) "to fight" and the CP *jang*=*kard-an* "war+do, to fight" have identical LRS representations and are derived through identical syntactic derivations at LRS level (cf. [7]-[9]).

Notice that the s-syntactic representation of the CP

in (25b) is similar and isomorphic to its l-syntactic

representation at the LRS [12]. That is, in both

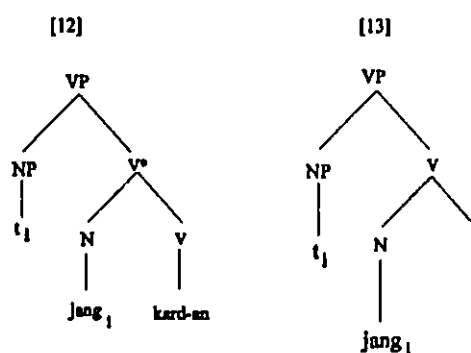
domains, the restricted variable *jang* "war" counts as

an implicit object for the LV *kard-an* and is the

sister of verb. At LRS, we have an instance of

conflation leading to the complex head, *V** in [12],

while in s-syntax no conflation takes place and the nominal PV remains in its original position within



⁶ I thank Simin Karimi for helping me out on this matter.

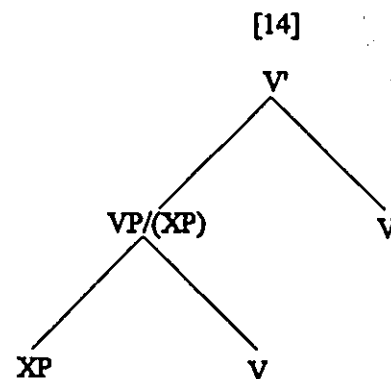
V-bar and forms a non-listed generalized lexical integer (25b) as we saw in the first section.

I argue that all CPs in MF have a LRS representation, i.e., a lexical-syntactic level of representation and formation, which is derived through conflation as in the discussions in this section and in [12-13]. This analysis is further supported by the existence of the simple denominal and deadjectival verbs (23-24; chap 4). This accounts for the behaviour and structure of the CPs as *morphological objects* and *syntactic words* in Persian. On the other hand, it is interesting that the two syntactic levels, i.e., LRS at l-syntax and the s-syntactic representations, are isomorphic and no extra burden is laid upon the mind of the native speakers to account for their structures and formations. In the concluding section I provide a summary and a preview of the type of syntactic representation CPs have in both s-syntax and l-syntax.

3.2.6 Conclusion

I have argued for a syntactic level of argument structure called LRS. LRS reflects the asymmetrical nature of the LCS. The lexical categories in this system define a system of relations between a head and its arguments. Heads project their categorial features. Lexical categories define a universal class, and are divided into some notional, conceptual types (§ 3.2.3).

I suggest [14] below as the basic syntactic/LRS representation, i.e., the basic l-syntactic and s-syntactic configuration, for all the CPs of MF, causative and inchoative. [14] counts as the syntactic/LRS representation for both full, thematic (causative and inchoative) verbs as well as their corresponding LVs in CP-structures of MF, (6 in chap 2). The



difference between the two arises in the s-syntax component. It is the choice of a full vs a LV, and the semantic properties of their internal complements (PVs) at s-syntax which lead to conflation and formation of CPs at LRS. The higher VP, in [14], corresponds to a causative, accomplishment verb while the lower one is associated with an inchoative/unaccusative event.

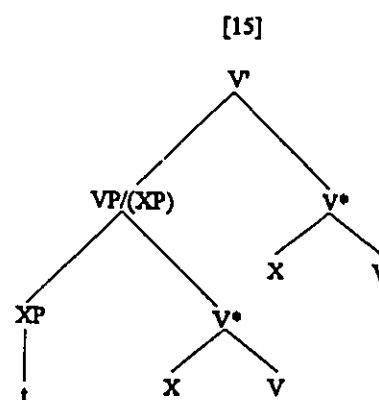
In Vendler-Dowty's aspectual classification of predicates any accomplishment includes an achievement predicate. This is shown by the higher and the lower VPs in [14] respectively. Furthermore, any achievement (or inchoative event) consists of a state predicate. State predicates indicate the prevalence, availability or occurrence of a situation, property or action; or yet in other words *an existential assertion about an event or predicate*. This is shown by the XP in (14) which corresponds to the PVs in CP-structures. That is, the EXISTential interpretation discussed in chapter 2 is shown by the XP embedded within the lower inchoative event in [14]. The XP complement of the lower verb corresponds to a PV, be it an NP, PP, AdjP, small clause headed by an adjective or a noun, an AdvP, or a stative predicate with an empty head.

[14] also counts as the basic (pre-spell-out) s-syntactic representation of the CPs. We see that the two levels are isomorphic and the PVs in s-syntax occupy the same syntactic position with respect to the LVs as they do at the l-syntax/LRS, [14-15], i.e., as the subcategorized (first) sister complements of the LVs and are c-commanded by the head of the LVs. Functional projections are built on the initial structures like [14], and other changes like raising due to checking features, and taking wide scope, apply to them at s-syntax or LF.

The head of XP, or the head of the PP, or the small clause may conflate into the heads of the lower and/or the higher VPs to form contrastive accomplishment and inchoative CPs at LRS [15], given the semantic conditions and syntactic configurations are met at s-syntax as discussed in chapters

2-3. The only difference is that no such conflation takes place in s-syntax and the XP remains in its original position within V-bar. Any complements of the XP(=PV) will count as the complements of the whole CP and will remain within the XP at LRS, and may be invisible. At s-syntax these complements will behave as the structural subjects, DOs, PPs of the sentence and occupy the GF positions provided by the PVs, LVs, and INFL (the topic of the following chapters).

The XP shown in the parentheses, adjacent to the lower VP in [14]-[15], indicates that the higher verb, V', may simply select an NP/XP as a complement, and not an embedded VP. In this case no (lower) inchoative event, and no causative/inchoative contrastive CPs, would be available. The verb counts as a simple, (empty) activity transitive one and the resulting CP would count as an unbound, atelic, activity verb, and/or an unergative CP like *do+laugh* in MF and Basque.



Neither the lower verb nor the higher verb projects a specifier/subject position at LRS, since subject for the category verb is a s-syntax requirement due to predication. The subject of unaccusative/inchoative verbs is known to be an internal argument. We will notice that in the inchoative/unaccusative CPs, the s-syntactic subject always corresponds to an internal argument of the (lower) inchoative/unaccusative VP in [14-15]. In the following chapters, I will apply the analyses provided in this chapter, and specifically this last section, to sets of CPs classified by their respective LVs, in order to reveal the argument structure and formation of particular contrastive causative/inchoative CPs in MF.

Morphological derivations and word-formation rules, i.e., incorporation/conflation, fusion,

fission, etc, apply on the initial syntactic structures of the LRS, [5], or other structures derived from them, [8], [12-13], [15]. Similar to the Parallel Morphology of Borer (1988), and Jackendoff (1994), I assume that the LRS and morphological structure are parallel to and stretch along the s-syntax, or computational component, so that multiple interactions between the two levels are possible at different stages. Thus, pure s-syntactic derivations may feed, and lead to, morphological derivations, i.e., word-formation is permitted after, and along, the syntactic computation in this theory.

Chapter IV

Complex Predicates with *Kard-an* & *Šod-an*

4.0 Introduction

From this chapter on I will apply the results of the theoretical findings in chapters 2-3 to particular sets of CPs. I will study the CPs by the type of LVs. The CPs that form contrastive causative, transitive vs intransitive inchoative pairs will be dealt with in the same sections or chapters. An analysis of all types of CPs formed with the LVs in (6) in chapter 2 is out of the scope of this study. However, I argue that only one syntactic configuration and its conflated equivalent can take care of the syntactic and lexical aspects of all CPs of MF. Thus, I will limit my analysis to the data that I believe are more frequent, controversial and enlightening.

This chapter addresses the GFs and argument structure of CPs formed with the most frequent (transitive) LV *kard-an* "to do" and its inchoative, passive equivalent *šod-an* "to become" which also extends to their stylistic variants in (6) in chapter 2. In § 4.1.4, I will study the impersonal (passive) structures with *šod-an* which seem to be troublesome for my approach that assumes two isomorphic syntactic levels for the CPs. These are some cases of phrasal CPs within V-bar at s-syntax that lack an equivalent conflated, lexicalized CP at LRS. They are called *degenerate* CPs, and their structure is accommodated in the general approach to CP-structures of MF.

4.1 CPs With the Transitive *Kard-an* & Unaccusative *Šod-an*

These two hamkards are definitely the most frequent LVs used to form CPs in MF. They form a contrastive opposition in that almost all transitive CPs formed with the transitive hamkard *kard-an*

have their intransitive, unaccusative counterpart with the light, inchoative hamkard *šod-an*¹.

The hamkard *kard-an* is a two place abstract LV of action/activity with a bleached LCS. As a finite (transitive) verb, *kard-an* hosts inflectional desinences such as tense, agreement, person, etc, over its lexical skeleton like all other verbs. It subcategorizes for a direct internal argument (DO) which may be filled by a predicative NP or an adjectival small clause. The weak NP or the adjective forms a CP within V-bar with *kard-an*. It also takes an (agentive) external argument as its subject at s-syntax.

Šod-an is an inchoative, unaccusative verb which subcategorizes for a sole direct internal argument (DO). Like *kard-an* it takes a predicative nominal or an adjectival small clause as its direct internal argument and forms a CP within V-bar with them. However, like all unaccusatives, it does not license strong objective case on a DO and does not allow an external argument as subject. In most traditional grammatical analyses, and even in some recent generative studies on passive structures of MF, *šod-an* has been analyzed as the auxiliary of passive structures, in that it forms periphrastic passives with the past participles of simple (and compound) transitive verbs. Passive structures are very rare in MF, and even the few cases of periphrastic passive structures are best analyzable as CPs rather than as periphrastic passive structures. That is, I argue that passive structures in MF are also instances of CPs formed according to the same semantic, syntactic and lexical principles argued for the CPs in chapters 2-3.

Khanlari (1979) also considers *šod-an* as the auxiliary of the passive and an "incomplete verb and attributes a state or quality to the subject." It is equivalent to the copula *būd-an* "to be", therefore

¹Part of the general properties of these two verbs has already been offered in section (2.7) in chapter 2. These will not be repeated, and are taken for granted here.

"its combination will not be taken as a compound verb." However, he concedes that "the transitive compound verbs with **kard-an** may be made passive (intransitive) by substituting *kard-an* with *šod-an*. Such combination of *šod-an* should be regarded as a compound verb" [bold mine].

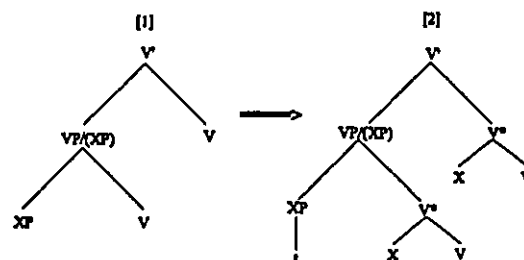
I suggest the LRS tree-diagram [14] and its conflated form [15] from chapter 3, repeated below as [1]-[2], as the proto-typical syntactic configurations for the hamkards **kard-an** and **šod-an**.

The higher V' corresponds to a transitive/causative, accomplishment event, **kard-an**, and the lower one to an unaccusative/inchoative event, **šod-an** in [1-2].

Given this short reminder, the analysis of the CPs

formed with **kard-an** and **šod-an** will look at the type

and argument structure of the PVs that combine with these two hamkards.



4.1.1 CPs with Transitive Predicate Nominals (or PVs)

In this subgroup I classify CPs whose nominal PV is a transitive predicative NP which selects a direct internal complement (NP (=DO)), an external argument, and perhaps an (optional) indirect internal PP-complement as in (1):

1. Amir pul rā be Morad pardāxt=kard.
 Amir money RA to Morad payment=did.3S
 Amir paid the money to Morad.

The PV **pardāxt** in (1) satisfies the subcategorization requirement of the LV **kard-** for an internal argument (DO). The underlined phrases in (1) belong to the PV as is shown in (2-3). The simple verb stem **pardāxt-an** "to pay" in (2), and the nominal head in (3) correspond to the PV in (1). Notice that the same arguments in (1) are realized in (2-3).

2. Amir pul rā be Morad **pardāxt**.
 Amir money RA to Morad pay.ps.3S
 Amir paid the money to Morad.
3. **Pardāxt-e** pul be Morad tavassot-e Amir
 payment-EZ money to morad by Amir
 Payment of money to Morad by Amir.

That is, the PV contributes all its arguments to the CP in (1). Furthermore, the GFs of the arguments also seem to have been determined by the PV. The direct internal argument of the PV, i.e., pul "money" (the DO in (2), and the noun preceded by EZĀFE in 3), count as the direct internal argument or DO for the CP in (1). The PP-complement, be Morad "to Morad", in (2-3) counts as the PP of the CP in (1).

There remains the subject, or external argument **Amir**. **Amir** seems to belong to the nominal PV in the CP (1) as we notice from its function as the subject in (2-3). However, it is not clear that **Amir** is contributed to the CP in (1) by the PV only because the hamkard **kard-an** being a transitive verb must have had an external argument (subject) as well.

I suggest (4) as the LCS of the CP **pardāxt=kard-an** "to pay" in (1), and (5) as the LCS of the PV in (1), the verb stem in (2), and the predicative noun in (3), **pardāxt-** "to pay or payment". The nominal PV **pardāxt**, a *complex event noun* (Grimshaw 1990), belongs to the *universal category verbs* (H&K 1994; and chap 3). The LCS and the LRS of the noun **pardāxt** "payment" in (1) & (3) is identical to that of the simple verb stem **pardāxt-** "pay" in (2) since they all belong to the *universal category verb* at l-syntax and do not project a specifier or subject.

4. [x **PARDĀXT** kard-]

5. [x [y P z] PARDĀXT]²

In (4) x is the standard unrestricted, argument variable. **Kard-an** being a member of the universal *category verb*, its x external variable is *uncommitted* to a GF position at LRS representation³.

PARDĀXT is the *restricted variable* or the *implicit object* of the LV **kard-**.

Given that **PARDĀXT** forms a CP with the LV, and it has its own independent LCS (5), it is natural to assume that their LCSs can be merged (through theta-identification) as in (6):

6. [x [x [y P z] PARDĀXT] kard-]

The x external argument variable of the LV in (4) is identical and co-indexed with the x variable of **PARDĀXT**. The resulting LCS of the CP in (1) after the merger is in (7):

7. [x [y P z] PARDĀXT kard-]

Thus the external arguments in (1-2-3), **Amir**, correspond to the external variable x in the LCSs (4-7). All the internal arguments of **PARDĀXT** in (5) now count as the internal arguments of the CP in (1, 4 & 7). This is shown with the subordinate brackets in (7). The LCS (7) is identical to, and may be replaced with (4) altogether, where the internal arguments are embedded within the LCS

²Notice that (5) is not a precise LCS for **PARDĀXT**. The precise LCS for it would be as in (i):

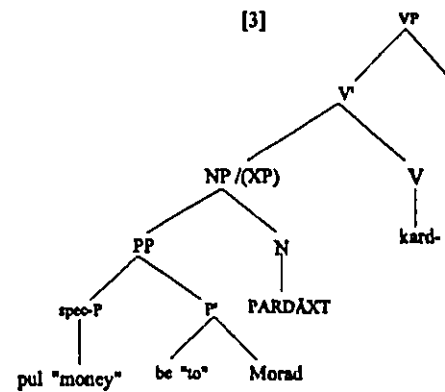
(i) **PARDĀXT**: [x do something [EVENT GO [STATE y to z]]]

In (i) the internal arguments of **PARDĀXT** are in an asymmetrical relation with the x external argument/ variable in the LCS by showing them in the subordinate and superordinate clauses respectively. However, for our present purposes (5) is sufficient. The LCS (7) shows the internal arguments of **PARDĀXT** in the subordinate clause. The LRS for **PARDĀXT** and the CP **PARDĀXT=kard-an** [3] reflects this LCS and not (5).

³However, the LCS (4) does not show why x should be the external argument and **PARDĀXT** the internal argument. Since (4) consists of only one event, there is no asymmetry to indicate why the unrestricted variable x is external and uncommitted to a GF position in LRS. This issue has already been discussed in section (2) of chapter 3 with respect to unergative verbs, i.e., *x laugh* and *x do LAUGH*. *Laugh* and **PARDĀXT** are the names of the actions by the subject or the actor. "The action is, of course, dependent upon the actor in the sense that it cannot be realized without the actor. By contrast, the actor is entirely autonomous with respect to the event" (H&K 1988:50). Thus there is a dependency relation between x and **PARDĀXT** in (4) in that x, the actor, is "regularly the *dominant* argument in an asymmetrical relation" H&K (1988:50). It is always the *dominant* argument (of the superordinant clause in LCS) that functions as the external argument, and is uncommitted to an internal argument in the LRS.

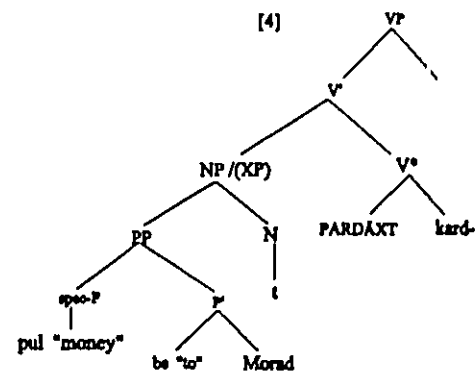
of PV and need not be visible at all at LCS/LRS. The LRS of the CP **pardāxt=kard-an** "to pay" corresponding to (1), and to the LCS (7), is given in [3] before conflation of the head of PV **PARDĀXT** into the LV.

The subordinate clause in the LCSs (6-7), i.e., [y P z], is the internal argument of the PV **PARDĀXT**, and actually counts as a PP. That is, the PV, **pardāxt**, subcategorizes for an interrelational PP in [3]. The specifier/subject of the preposition, be "to", is **pul** "money", and its complement is **Morad**, the goal end-point of the transference of the money in [3].



[4] is the LRS of the lexicalized CP **pardāxt=kard(-an)** where the head of the PV in [3] conflates into the head of the LV. The movement respects the conditions on head-to-head movement, and the ECP. The trace of movement is c-commanded and antecedent governed by the complex head **V*** in [4].

The argument structure of the CP in (1) is taken care of by the LRSs [3-4]. The internal arguments of the CP (or the PV), i.e., the PP, are embedded within the PV in the LRSs [3-4]. The internal arguments of the CP need not be explicitly shown, and be visible at LRS, but may be invisible, like (4), and [5]. The external argument is not part of the LRS but is present at LCS (7), (cf. Di Sciullo & Williams (DS&W) 1987; Lieber 1983).

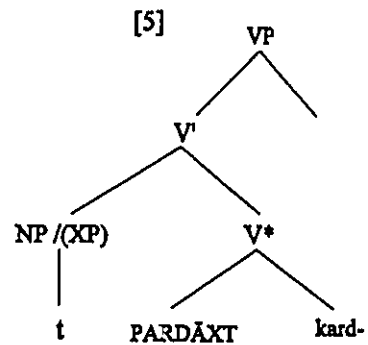


The conflated complex head, **V***, in [4-5] is now a

lexically-formed verbal head, but formed according to the principles attributed to s-syntax, i.e., head-to-head movement, incorporation, and may be also called a *syntactic word* (DS&W 1987). This head may now undergo morphological processes, and shows properties of *morphological objects*.

Let us see how the s-syntactic derivation of the CP in (1) is realized. I suggest that [3] also counts as the basic s-syntactic configuration for the CP in (1) (excluding the functional projections above VP). V-bar in [3] counts as a *generalized lexical integer* in s-syntax. The nominal PV **pardāxt** "payment" is a DE-complement for the DE transitive LV **kard-an** in (1), a *bleached predicate of existence*, that is only compatible with a weak, complement/XP of the semantic type <e,t> in s-syntax, i.e., the PV **pardāxt**.

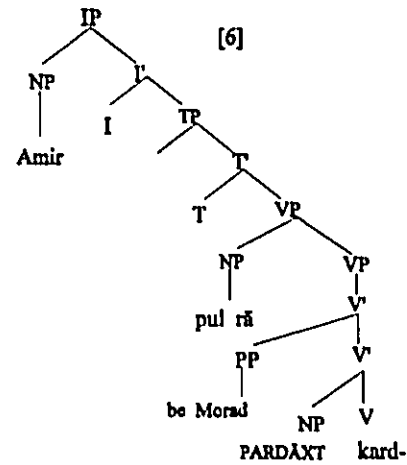
The LV is without substance, and the DE-complement must enter into the *closest possible syntactic relation*, i.e., theta-identification, with the LV in order to *substantiate* it. V-bar is the locus of substantiation that is the deepest level of the projection of the verb. The s-syntactic representation of the CP in (1), isomorphic to [3]-[4], with the common functional projections, is given in [6].



In [6] the PP **be Morad** "to Morad" occupies the higher position within V-bar. The deepest level of V-bar is the locus where the predicate PV **pardāxt** forms a *generalized lexical integer* or phrasal CP. The PP, **be Morad**, may not occupy the lower V-bar in [6], as shown in (8):

8. *Amir pul rā pardāxt be Morad kard.
 Amir money RA payment be Morad did.3S
 Amir paid the money to Morad.

In [6] the direct internal argument of the PV and the CP in (1 & 7), **pul** "money", receives strong structural case at a position adjoined to VP (probably when the verb raises to check tense features). It is a strong NP, a Generalized Quantifier (GQ). The PV weak, nominal **pardāxt** receives weak structural objective case directly from the verb within V-bar, with a concomitant existential reading. The s-syntax representation [6] (and [3]) is isomorphic to the l-syntax representation in [4] in that the GFs, and the syntactic relations in [4], are retained in [6].



The CP **pardāxt=kard-an** in (1) is a transitive predicate as we also note from its LCS (7), the LRS [4], and [6]. All CPs formed with a transitive PV (that selects an obligatory direct internal argument) and the LV **kard-an** are transitive themselves since such CPs inherit the direct internal argument of the transitive PV.

All transitive CPs with **kard-an** have an unaccusative, inchoative, CP alternant with the LV **šod-an** "to become", the presumed auxiliary of the passive structures in MF. Notice the unaccusative or passive equivalent of the CP in (1) with **šod-an** in (9) below:

9. pul (tavasote Amir) be Morad **pardāxt=šod.**
 money by Amir to Morad payment=became.3S
 The money was paid to Morad (by Amir).

The LCS of the PV **pardāxt**, ((5) above), remains unchanged in (9), repeated as (10). The LCS of the CP **pardāxt=šod-an** "to be paid" in (9) is suggested in (11):

10. [x [y P z] PARDĀXT] (5)

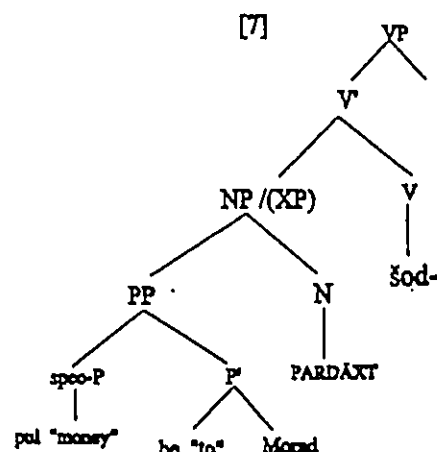
11. [[x [y P z] PARDĀXT] šod-] (to be revised)

Šod-an is an unaccusative verb and has no *x* external argument in its LCS (11), contrary to the LCS of kard-an in (4). Comparing (1) with (9), we note that the DO in (1), pul "money", is the subject in (9). The external argument, or subject in (1), Amir, is demoted to an optional by-PP, which is in fact very odd if present in the sentence in MF. In other words, we confront a passive structure in (9) since the subject of the active sentence in (1) is demoted to a by-PP and the DO is raised to the subject position. However, the transitive LV kard-an is totally absent and a new LV šod-an has replaced it.

The LCS of the CP pardāxt=šod-an "to be paid" in (9), (11), seems to be very similar, though not identical, to the LCS of the CP pardāxt=kard-an "to pay" (1), (7). The LCS of the latter; (7), is repeated below as (12). They both consist of a main event which embeds the restricted variable PARDĀXT and its arguments. The external argument *x* in the superordinate clause of the LCS (12) and the external argument *x* in the subordinate clause in (11) are irrelevant for the projection at the level of LRS and are not present at that level. Factoring the external arguments out, then the LCS and LRS of pardāxt=šod-an might seem to be identical to the LCS and LRS of pardāxt=kard-an [3].

12. [*x* [*y* P *z*] PARDĀXT kard-] (7)

I have, tentatively, shown the LRS of the CP pardāxt=šod-an "to be paid", (9) and (11), in [7] (cf. [3]) before conflation. [7] is exactly identical to the LRS for the transitive, active CP pardāxt=kard-an "to pay" in [3]. We suspect that there might be something wrong since we expect the LRS of a transitive verb to be different from its inchoative, passive counterpart. The conflated LRS of [7] would also be identical to [4] above.



However, this LRS, [7], appropriately reflects the LCS (11) and can account for (9). *Šod-an* subcategorizes for a direct internal argument, i.e., the PV *pardāxt* in (9) and (11). The resulting CP in (9) inherits all the arguments of the PV (see the discussion for (9) above). We have every reason to be happy with the result and conformity between the LCS (11) the LRS in [7] and (9). Yet we intuitively feel that there must be something wrong. The problem is that we expect the LCS and LRS of a transitive, active verb to be different from those of an inchoative, unaccusative (or passive) verb. How do we tell the difference between the LRS [3] and [7]. The structural relationships between the nodes in the two are identical. Why do we call *kard-an* transitive and *šod-an* unaccusative, inchoative if they have identical LRSs, and very similar LCSs?

We might want to seek the answer in the LCS of *šod-an* suggested in (11). This, I suggest, is not the correct LCS for an inchoative verb like *šod-an*. Inchoatives correspond to the central, subordinate event of a transitive or causative event, and are intuitively caused by an explicit or implicit external cause, agent, event, condition, circumstance, etc. Jackendoff (1991) defines inchoative as "a function that maps a state into an event culminating into that state." That is, inchoatives denote a spontaneous event or transition coming to an end point, or state, just like the LV *šod-an* "to become", an inchoative verb of change of state. The inchoative verb *šod-an* seems to count as the intransitive, monadic counterpart of ergative alternation verbs, with transitive, causative alternants and with a causative LCS, i.e., *break, open, split, close, sink*, etc. If this is true, then this has to be reflected in the LCS of *šod-an*. Notice 13-14, and the equivalent English glosses:

13. Jon goldān rā šekast
John pot RA broke.ps.3S "John broke the pot."
14. goldān (*tavassote Jon) šekast
pot (*by John) broke.ps.3S "The pot broke (*by John)."

The DO of the transitive ergative *šekast* "broke", *goldān* "pot" in (13), counts as the subject of the intransitive ergative *šekast* in (14). In both the DO counts as a passive participant of the main event of *breaking*. The same syntactic and semantic relationships as in (13-14) also hold between the arguments of the transitive CP *pardāxt=kard-an* "to pay" in (1) and those of its intransitive variant *pardāxt=šod-an* "to be paid" in (9). In both, *Pul* "money" is the passive participant. It functions as DO in the former, but as subject in the latter.

Smith (1970) following Jespersen, who calls such alternating verbs the *move* and *change* class, refers to them as verbs of *change* class which include both verbs of change of state and verbs of motion. She argues that the activity of motion or change of state can occur independently of an external agent as in the intransitive variants (9 & 14). However, there is an external controller of the change or activity that is realized by the subject of the transitive versions (1 & 13). She characterizes verbs of change with two features *external control* and *independent activity*.

It is the inchoative verb *šod-an* that gives the reading change of state and *independent activity* to the CP *pardāxt=šod-an* in (9). It is intuitively felt that the CP in (9) requires an *external control* to bring about the change of state. The external control is realized as subject in its transitive variant with *kard-an* (1). *Kard-an*, on the other hand, seems to count as a transitive verb of direct *external control* in the theory of Smith (1970) that directly controls and embeds the activity denoted by the nominal PVs⁴. Similarly the verb *šekast-an* "to break" both in MF and the English gloss in (13-14)

⁴This is confirmed by the observation that whenever *kard-an* forms a CP with a nominal PV, its external argument is obligatorily identified with the external argument of the PV in the LCS. This indicates that it *directly controls* the activity denoted by the PV. However, it may function as a causative LV as well in which case it takes a small clause as its direct internal argument. In this case it may function as an *indirect external controller* (cf. § 4.1.5). *Kard-an*, and CPs formed with it, do not necessarily denote a change of state, rather they may also indicate the occurrence of a simple activity (denoted by the nominal PVs) (see §4.1.3).

denotes an eventuality that is under the control of an external controller that can be realized as an agent subject (13). The verb may also be used independently without the external controller (14). Even in this use the notion of external control is intuitive and implicit and is part of the meaning of the intransitive verb.

Levin & Rappaport (L&R) (1994, 1995) call all verbs which exhibit transitivity alternations (like (13-14)) *causative alternation* verbs where "the meaning of the transitive use of a verb can be roughly paraphrased as *cause to V-intransitive*". They note that verbs other than verbs of *move* and *change* of Jespersen and Smith (1970) may participate in this type of alternations. They classify them into *externally caused eventualities* like ergative alternation verbs which are inherently dyadic transitive, *break, open, clear, clean*, and *internally caused eventualities* which are inherently monadic, intransitive like unergative verbs, *laugh, cry*. These generally lack transitive, causative counterparts that Smith and L&R attribute to internal control, will and volition. These are verbs that cannot be externally controlled and correspond to an independent activity but minus external control in Smith (1970).

L&R (1994) argue that the notions *external control* and *independent activity* are included within the notion *externally caused eventualities*:

...Verbs which are externally caused inherently imply the existence of an external control over bringing about the eventuality denoted by the verb: an agent, an instrument, a natural force, or circumstance. Thus something breaks because of the existence of some external cause; something does not break solely because of its own properties. Some of these verbs can be used intransitively without the expression of an external cause, but, even when no cause is specified, our knowledge of the world tells us that the eventuality these verbs denote could not have happened without an external cause. (L&R 1994: 50)

The LCS (15), from L&R (1995, chap 3, their (60-61)), corresponds to both transitive and intransitive verb *break*. In the intransitive *break* (14) the external cause is not realized in syntax but

is implicit. In other words, L&R (1995) argue that the x argument is bound within the LCS representation and is not projected to the argument structure where the binding is interpreted as *existential quantification*⁵.

15. *break*-(in)transitive: [x do something] CAUSE [y BECOME BROKEN]]

L&R argue that *change of state* verbs figure prominently among the alternating verbs of externally caused eventualities. Verbs of position, *lean, hang, sit* also seem to belong to this class. Among the verbs of *change of location*, verbs of *directed motion* or *directed change*, *come, go, rise, fall* fall under this group (their classification is more detailed and is not relevant here). Many of the LVs of the CPs ((6) chapter 2) fall under the class of *directed change, change of state* and *externally caused verbs*.

Drawing from Guerssel (1986), H&K (1987, 1988: 47) argue that "the primitive human classification of processes recognizes a class whose realization is always the result of some external force or condition". They classify event-types as events that are brought about by forces external to the central participants or event, like *break* and *ergative alternation verbs*, and events that are brought about by forces internal to the central participants like *jump, run*, and *unergatives*.

In the decompositional LCS that they adopt, H&K show that both the transitive/causative and intransitive *break*, and ergative verbs in general, contain a superordinate *cause* function that embeds the subordinate *central event*. The primitive LCS for *break* is given in (16) (from H&K 1987: 29, their (41)):

⁵This is in contrast with passive structures (like *the pot was broken (by John)*) where L&R, following Grimshaw (1990), argue that the x external argument is projected to the argument structure but is suppressed at that level. This contrast then accounts for the observation that in the intransitive *break* (14) the x argument cannot be realized as a *by*-phrase, while in the passive *break* it may do so (see chapter 5).

16. [cause [separation in material integrity, ...]]

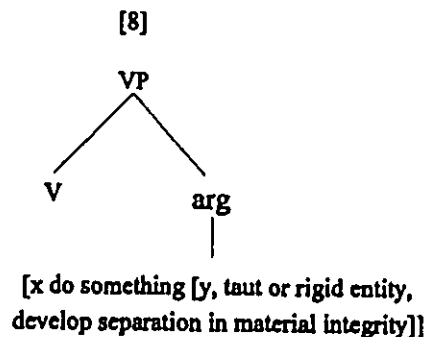
They argue that even the nominal *break* in (17) shares the cause function, in (16), as part of its LCS, but lacks the event notion which is inherent in the verbal *break*.

17. The pot has a break in it.

H&K (1988) developing this theory replace the cause function in (16) with a restricted variable *c* for the conceptual category *circumstance* in the LCS of ergative alternation verbs that may or may not project in syntax. When it does we get the transitive variant, when it does not we get the intransitive, unaccusative variant which still implies an external cause or circumstance that brings it about. The elementary LCS for *break* from H&K (1988: 10), with slight modification, is given in (18), which is correct for all ergative alternation verbs cross linguistically:

18. [c [y, taut or rigid entity, develop separation in material integrity]]

Both external control and independent activity of Smith (1970) are reflected in the asymmetry in LCSs (15, 16 & 18). The *x* external argument/variable (or the external controller) always originates from the superordinate cause clauses, in (15, 16 & 18), and is *uncommitted* to a GF position at LRS. It occupies the subject position in active sentences at s-syntax. The asymmetry is also reflected at the LRS [8], (from H&K 1988: 47, their (9) with slight modification), in that the variable *y* within the central subevent is *committed* to the object GF position in [8], for both transitive and intransitive use of English *break* which is true for the MF examples in (13-14) as well. The embedded central event corresponds to the intransitive use of *break/verb* and denotes an eventuality that can occur



spontaneously and independently, without the intervention of an explicit, volitional controller⁶.

Now if the central event comes to be realized independently as a finite clause in syntax, (14 above), it is clear that its sole argument, *y*, has to move to subject position. Yet we see that it occupies the object GF position at LRS [8]. It is in this sense that L&R (1994), H&K (1988) argue that the intransitive variants of ergative alternation (or externally caused) verbs are *unaccusatives* in that their sole arguments count as their DOs or direct internal arguments at some level of underlying structure.

Given this lengthy digression, let us now return to a LCS for the inchoative verb of change of state *šod-an* in (9). Change of state verbs count as the prime instances of externally caused eventualities and the intransitive, unaccusative/ergative *šod-an* requires a causal *circumstance* in its LCS as in (20), and not as in (11) repeated here as (19):

19. [[*x* [*y P z*] PARDĀXT] *šod-*] (to be revised) (11)

20. [*c* [[*x* [*y P z*] PARDĀXT] *šod-*]]

The transitive counterpart of (9) is (1) where *Amir* is the subject or external cause of the event of *payment*. Given that it is an action on the part of *Amir* and not *Amir* itself that counts as the causal circumstance for (9) & (20), I replace *c* in (20) with *x do something*, similar to [8].

21. [*x do something* [[*x* [*y P z*] PARDĀXT] *šod-*]]

However, we can be more specific about the exact name of the action *Amir* does in (21). The name

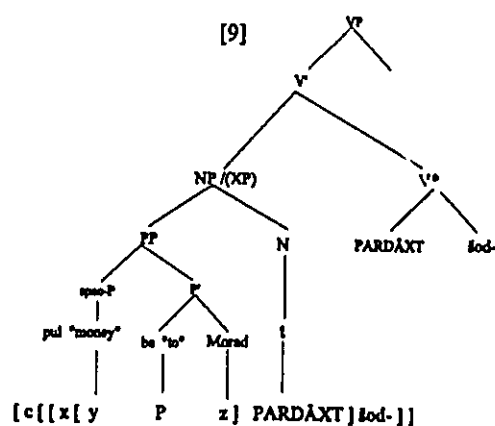
⁶The unrestricted variable *c* ranges over *circumstances* in (18) and denotes any type of external force or cause, i.e., natural forces, and instruments like heat, wind, gravity, etc., volitional or non-volitional events or circumstances like dancing, falling, playing, working etc, that might bring about the event denoted in the central event. The circumstance might be realized by an NP like *The heat broke the pot*, or *John broke the pot*. In the first example, the mere existence of a circumstance, i.e., *heat*, may lead or cause the pot to break. In the latter, the causal circumstance is associated with an action or process, be it volitional or non-volitional, on the part of *John* which leads to the event, and not the NP *John* by itself.

of action, or *something* in (21) by Amir, is **PARDĀXT** "payment". That is, it is *Amir's action of paying the money to Morad*, in (1), which causes the *money to come to be (=become) paid to Morad* in (9). Thus let us replace *c* in (20-21) with the LCS of (1)-(7):

22. [x [y P z] PARDĀXT kard- [[x [y P z] PARDĀXT] šod-]]

Notice that the underlined part in (22) corresponds to the LCS of the active, transitive CP **pardāxt=kard**-an "payment=do, to pay" in (1), (7), and has replaced *c* in (20), and *x do something* in (21). (22) counts as the full LCS of the intransitive (passive), inchoative CP **pardāxt=šod**-an "to be paid" in (9). Only the central subevent in (20-21-22), which counts as an independent event with an implicit external cause, is realized at the LRS and s-syntax, (9).

Thus, I assume that the LRS [7] that I proposed for (9) is correct, and it was only the LCS of the inchoative CP, (11), that lacked the implicit external cause. The LRS of the CP **pardāxt=šod**-an "to be paid" in (9), [7], is repeated in [9], but after the conflation of the PV into the head of the LV, shown with its LCS. I use (20) for brevity.



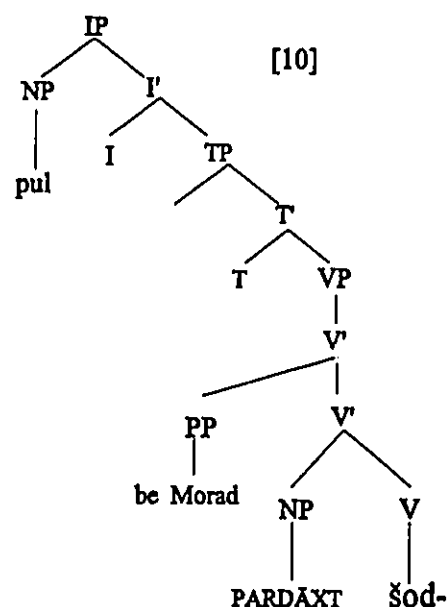
The nominal PV in [9], **PARDĀXT** as object of **šod-**, is in a proper structural position to conflate into the head of the LV to form the complex head **V***. The complex head, **V***, is now a *morphological object*, but formed according to the principles of syntax, called a *syntactic word* (DS&W 1987). This accounts for the wordhood of the CP-INF **pardāxt=šod**-an "to be paid".

The argument structure of the CP in (9), **pardāxt=šod**-an "to be paid", is automatically accounted for in the LRS [9]. All the internal arguments of the PV **pardāxt**, **pul** (*y*) and **be Morad**

(Pz), are the internal arguments of the CP as well, and may not be necessarily visible, like [5] above⁷. The *x* external argument, Amir, is not shown in [9] since it is not part of argument structure (cf. chapter 3).

The higher external variable *x* in the LCSs (21-22) belongs to the superordinate clauses and counts as the implicit cause of the CPs with *šod-an*. The embedded *x* variable in (20-22) is the external argument of the PV *pardāxt* which is itself embedded as the complement of the LV *šod-an*. External arguments may only originate from the superordinate events of LCSs, and not from the subordinate, central subevents of the LCSs. The only possible choice for *x* would be to be realized as a *by*-phrase, as in standard passive structures, i.e., *tavasote Amir "by Amir", (9)*.

The s-syntax derivation, of this inchoative CP, (9), repeated in (23), is shown in [10]. The PV is located within the deepest level of V-bar and the PP occupies a higher position in the VP in [10]. The PP may not occupy the deeper, and closer position to the verb in [10] as we note by the ungrammaticality of (24), but it may occupy any position within the higher functional projections in IP.



⁷ Notice that the LCS of this CP (9), i.e., (20-21-22), may be further reduced so that the internal arguments of the PV are invisible, as in (i), (similar to the LCS in (4) and the LRS [5]):

i. [c [PARDAXT šod]]

23. pul (tavasote Amir) be Morad pardāxt=šod⁶. (9)
 money by Amir to Morad payment=became.3S
 The money was paid to Morad (by Amir).

The lower V-bar is the locus of *substantiation* and the PV is in the proper structural configuration to substantiate the LV and to form a *generalized lexical integer*, or a phrasal CP at s-syntax corresponding to the lexicalized CP, V*, in LRS [9].

24. *pul (tavasote Amir) pardāxt be Morad šod.
 money by Amir payment to Morad became.3S
 The money was paid to Morad (by Amir).

The unaccusative LV *šod-an* assigns weak structural case to the nominal PV (chapter 2). The sentence (23)-[10] requires a subject and the only available NP argument that can function as the subject of the clause is the direct internal argument of the PV (or CP by now), *pul* "money" at Spec-PP in [9]. This is the only desirable option for the unaccusative *šod-an* that only allows an internal argument as its subject. The above analysis predicts that all CPs formed with the transitive LV *kard-an* and a transitive nominal PV, with its own direct internal argument (object), are transitive, and have alternant inchoative, unaccusative CPs with the LV *šod-an* in MF.

4.1.2 CPs with Intransitive Predicate Nominals (or PVs), with a PP-internal Argument

In this section I analyze CPs formed with the hamkards *kard-an* and *šod-an* where the PV is intransitive in the sense that it does not select a direct internal argument (an object), but takes an indirect internal argument or PP. However, all the nominal PVs have an *x* external argument in the

⁶The sentence (23) has been analyzed as the passive of the active sentence (1), formed through the standard periphrastic rules of passive formation (see Dabir-Moghaddam 1982a, 1982b, 1985; Barjasteh 1983). I do not believe in the existence of periphrastic passive structures in MF, similar to Moyne (1970, 1974). I do not mind, though, if (23) is called a passive structure. However, I believe that (23) contains a CP as its main predicate headed by the inchoative LV *šod-an*, and is formed according to the principles provided above.

LCSs. These may be further subdivided into three subgroups depending on whether the PP of the PV is an **'az-PP** "from PP" (25), **be-PP** "to PP" (26), or **bā-PP** "with-PP" (27). Since these PVs select no objects/direct internal complements, the analysis predicts that there will be no CPs with the unaccusative LV **šod-an** which only allows a VP-internal complement/object as its s-syntax subject.

25.a Amir 'az kār-e to ta'ajjob kard
 Amir from work/behaviour -EZ you astonishment do.ps.3S
 Amir was astonished by your behaviour.

.b ta'ajjob=kard-an
 astonishment do-INF "to astonish"

26.a Mina be tāblo negāh kard
 Mina to painting look do.ps.3S
 Mina looked at the painting.

.b negāh=kard-an
 look do-INF "to look"

27.a Mina bā Mehri 'āšti kard
 Mina with Mehri reconciliation do.ps. 3S
 Mina reconciliated with Mehri.

.b 'āšti=kard-an
 reconciliation do-INF "to reconcile"

There is a long list of CPs in each subgroup. I will analyze (26) only, but the analysis extends to the other two CPs as well as to all the CPs that fall under the classification in this subsection.

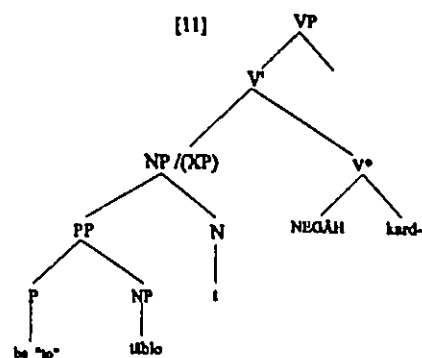
The LCS of the CP in (26) is provided in (28a-b). In (28b) the LCS of the nominal PV is embedded within the LV:

28.a Negāh=kard-an "to look": [x NEGĀH kard-]

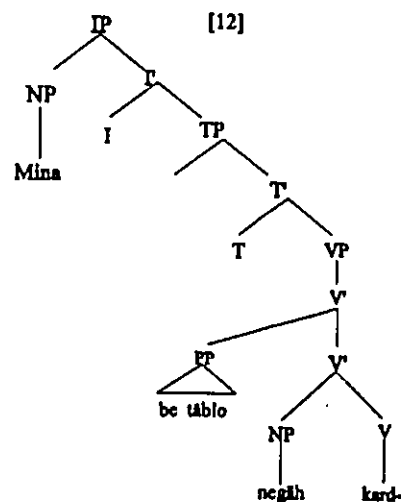
.b Negāh=kard-an "to look": [x [x [P z] NEGĀH] kard-]

Given the discussion in § 4.1.1 above, the analysis should be straightforward and predictable. The

LRS of (26) & (28), in [11], shows the conflation of the head of the nominal PV into the head of the hamkard. The two form a complex head, V*, that accounts for the behaviour of these CPs as *morphological objects* and for their structure as *syntactic words*.



At s-syntax the PV, negāh "look", the internal argument (weak DO) of the hamkard kard-an, substantiates the LV within V-bar and forms a *generalized lexical integer*, phrasal CP, corresponding to the conflated CP, V* in [11]. The weak nominal PV in (26a), negāh "look", may not receive strong objective case and be followed by rā, even though the LV, kard-, is transitive and can license strong case, as shown by ungrammaticality of (29). The PV does not count as a true argument or generalized quantifier $\langle\langle e, t \rangle, t \rangle$, rather it is a predicate $\langle e, t \rangle$, and receives weak structural objective case directly from the LV. The x argument of the hamkard in the superordinate clause is identified with the x argument of the PV and appears in NP-IP position as the subject⁹. The PP of the nominal PV is contained within its projection and belongs to the whole CP.



[12] is the s-syntax derivation for (26).

29. *Mina be tāblo negāh rā kard
Mina to painting look RA did.INF

⁹ Identification of the x external arguments of the two is required in order to show that the event denoted by the nominal predicate PV is done by the same person who does the event denoted by the hamkard. Recall that in chapter 2, following Higginbotham (1987), I argued that the Event argument of the verbal predicate is identified and modified by the Event argument of the predicate PV by the process of theta-identification (Higginbotham 1985), so that the two denote one single action, i.e., the event of *looking* and the event of *doing* are one and the same event in (26) done by the same person.

Let us see whether or not any CPs are formed with the inchoative **šod-an** and the PVs of this subsection. We expect not, and this is in fact the case. The equivalent of CPs in (25-26-27) is given with **šod-an** in (30-31-32) respectively. As (30-32) indicate, no phrasal CP in s-syntax, (a) examples, and nominalized CP at l-syntax/LRS, (b) examples, are possible.

30.a *'az kār-e to (tavassote Amir) ta'ajjob šod
 from work/behaviour -EZ you (by Amir) astonishment become.ps.3S
 Lit. From your behaviour/work by Amir was astonished.

.b *ta'ajjob=šod-an
 astonishment become-INF "to be astonished"

31.a *be tāblo (tavassote Mīna) negāh šod
 to painting (by Mīna) look become.ps.3S
 Lit. To the painting was looked by Mīna.

.b *negāh=šod-an
 look become-INF "to be looked"

32.a *bā Mehri (tavassot Mīna) 'āšti šod
 with Mehri (by Mīna) reconciliation become.ps. 3S
 Lit. With Mehri (by Mīna) was reconciled.

.b *'āšti=šod-an
 reconciliation become-INF "to be reconciled"

Let us see what the reason might be. I will study (31), the equivalent of (26), and the analysis extends to others as well. The LCS of (31), *negāh=šod-an would look like (33):

33. *Negāh=šod-an: [c [[x [P z] NEGĀH] šod-]]

The nominal PV, **negāh** "look" in (31) & (33), has all the semantic and syntactic properties to count as the direct internal argument (object) of the LV **šod-an**. However, as is standard with respect to unaccusative verbs, we would expect the underlying object, the PV **negāh**, to move to the subject

position in s-syntax, as (34) might seem to indicate¹⁰. However (34), (cf. (31a)), is ungrammatical.

34. * *negāh* *be* *tāblo* (*tavassote Mīna*) *t* *šod*
 look to painting (by Mīna) become.ps.3S
 Lit. To the painting looking became (by Mīna)./Looking happened to the painting.

There is no evidence that the PV*negāh* is in the subject position in (34). Had this been the case, we would expect (34) to be grammatical. The inflectional endings on the LV indicates third person singular agreement that seems to agree with the PV which is also singular. However, the PV is not in subject position in (34), otherwise the sentence would be licit. Sentences (34) and (31a) are rejected by the lack of predication, i.e., lack of an appropriate NP argument in subject position. The PV, *negāh* "look", is predicative of type <e,t>, and should be able to form a phrasal CP within V-bar with the LV, that it cannot. It cannot function as a strong DO either (29) (cf. discussion in chap 1).

There seems to be no expletive element to occupy the subject position in (31a)-(34). Even if there were one, none seems to appear here. No expletive null element (*pro*) appears in the subject position in (31a)-(34) either. Otherwise the finite CP **negāh=šod-* in (31a) would have a subject in syntax and we would expect (31a) and (34) to be grammatical. I conclude that there does not seem to be an expletive *pro* item in the subject position of (31a)-(34) to function as surface subject. The lack of a null *pro* item, or any type of NP or pronoun, in the subject position of (31a) (and (30a & 32a) as well) is crucial for the ungrammaticality of (31a)-(34) (also 30 & 32) and plays a crucial role

¹⁰ Levin and Rappaport (L&R)(1992) give (i) as the syntactic d-structure of the unaccusative verbs where the sole internal argument of the verb is within VP.

i. Unaccusative Verb:---[_{VP} V NP] L&R (1992:247, (1a))

Thus in (ii) the Italian unaccusative verb *cadere* "fall" selects the unaccusative auxiliary *essere* "be" even when used agentively (from L&R 1992, (5), adopted in turn from Rosen 1984 (76a).

ii. Luigi è caduto apposta.
 Luigi fell on purpose.

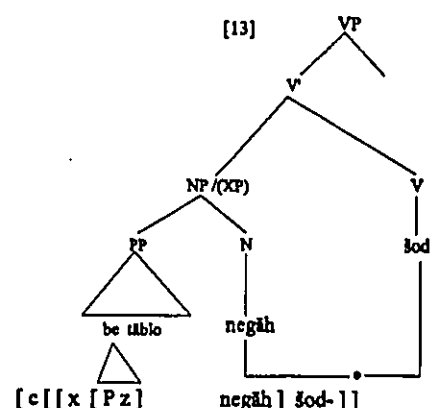
The subject *Luigi* is a subcategorized internal argument (object) of the unaccusative verb in (ii) but moves to subject position to satisfy predication and INFL. Given that the nominal PV in (31a)-(34) counts as the subcategorized object of the unaccusative LV *šod-an*, we would expect it to be able to move to subject position, as in the Italian (ii).

in analyzing the phenomena that follow in sections (4.1.3 & 4.1.4).

However, (31a) is illicit for a very simple reason. Assuming that *šod-an* is the auxiliary of the passive, the (a) examples of (30-31-32) are ungrammatical since their respective active sentences with the CPs in (25-26-27) do not have a DO, and are in fact intransitives. They should not be able to passivize since as intransitive sentences they lack a DO to function as subject in the passive variants.

Let us cast the analysis in terms of the LRS and LCS.

This is shown in [13] corresponding to (31a) and its LCS (33). The nominal PV, *negāh* "look", stands in the proper syntactic configuration with respect to *šod-an* in order to conflate into the LV to form a complex head with it at LRS [13], (cf. § 4.1.1). However, this never happens. The LV, *šod-an*, in the LCS [13] occurs in the subordinate central subevent



and lacks an *x* external argument. The *x* external argument of the embedded PV may not function as the subject in (31a), since the unaccusative LV is incompatible with it. It may only be realized as a *by*-phrase. A true external argument originates from the superordinate clause of the LCS. The PP in LCS and LRS [13] cannot function as subject in MF either. Thus, the V-bars, or phrasal CPs, (31a) and (30a-32a) are rejected by the lack of predication.

As a result, conflation is blocked in [13] which means that there will be no complex verbal head **negāh=šod-*, (V*), and no other morphological derivations from it as we see by the lack of CP-INFinitives in the (b) examples of (30-31-32)¹¹. I suggest that the impossibility of the phrasal CPs in

¹¹Suppose that conflation in [13] were possible and the complex verbal head **negāh=šod-* was an existent head. This head would still count as a complex unaccusative verbal head. However, as an unaccusative verb, it would not be able to function as the finite predicate of a clause since it lacks a VP-internal complement (object) to function as its subject at s-syntax in

s-syntax ((a) examples in (30-32)), which is clearly due to the lack of proper predication, has lead to the *blocking* of the corresponding conflated heads at l-syntax/LRS, i.e., [13], and the (b) examples in (30-32)¹². This, of course, implies that a s-syntactic constraint prevents the application of a later morphological derivation at LRS and/or morphological structure¹³.

To summarize, the analysis of CPs formed with intransitive nominal PVs, which take an indirect internal argument (P+NP), and the LVs **kard-an** and **šod-an** reveals that these PVs form CPs with **kard-an** only, but not with **šod-an**.

4.1.3 CPs with Intransitive Predicate Nominals (or PVs)

This section examines CPs formed with **kard-an**, its inchoative alternant **šod-an** and intransitive nominal PVs which have no (obligatory) internal arguments (direct or indirect). These nominal PVs may have a thematic external argument, *x*, as in (35), or a non-thematic external argument, *R*, as in (36) (cf. Williams 1981; DS&W 1987). Nominals in the latter set are result or abstract nouns with a sole referential argument *R*. CPs formed with the nominal PVs in the first set

[13]. The complex head ***negāh=šod-** violates the basic definition of an unaccusative verbal head, i.e., having a sole direct internal argument at LRS.

¹²It has been claimed that morphological affixation and processes have an effect on the syntactic valency of the words which is accounted for in terms of operations on argument structure and LCS (Williams 1981; DS&W 1987; Booij 1992; Di Sciullo 1992; Selkirk 1982; Lieber 1983). The infinitival suffix **-an** attaches to all simple and complex (past) verbal stems to make event nominals denoting the event or action of the verb without changing the syntactic valency of the verbal stems (similar to **-ing** gerunds in English). This is not possible for (30-31-32) as in the (b) examples. There is potentially no prohibition for doing so, since the **-an** suffix does not refer to any particular arguments of the stems it attaches to. Similarly the suffix **-eh** is added to all past stems to form the participle form of verbs. There is no participle form ***negāh=šod-eh** "be looked" corresponding to (31). Had there been a complex head in [13], the (b) examples above would be automatically acceptable.

¹³Assuming that (the impossibility of) the conflated head at LRS, [13], occurs first and then leads to the ungrammaticality of the finite phrasal CPs in (30a-31a-32a) would mean that CPs originate at the LRS as complex X⁰s and are then used or inserted as finite predicates at s-syntax, or PF. However, this would leave the observation that a conflated, morphological complex word, X⁰-CP, changes status to a phrasal CP at s-syntax and PF in Persian unexplained and unaccounted for (cf. chapter 1, and § 4.1.4).

normally correspond to simple unergative verbs. The result shows properties exactly like those observed in § 4.1.2.

35.a Homa xub raqs mi-kon-ad // (mi-raqs-ad)
 Homa well dance IND-do-3S (IND-dance.prs.3S)
 Homa dances well.

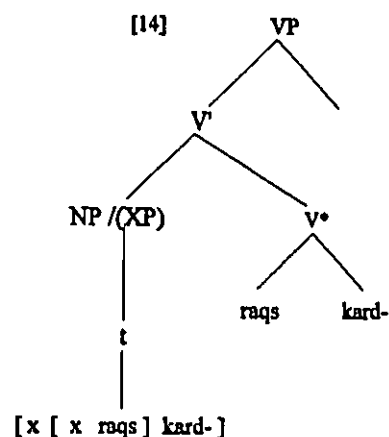
.b raqs=kard-an
 dance=do-INF "to dance"

36.a Homa šowhar kard
 Homa husband do.prs.-3S
 Homa got married. (Lit. Homa did a husband.)

.b šowhar=kard-an
 husband=do-INF "to get married" (used only for women)

.c šowhar-e Homa mard-e xubi 'ast.
 husband-EZ Homa man-EZ nice is
 Homa's husband is a nice man.

The nominal PV, *raqs* "dance" in the CP *raqs=kard-an* "dance=do, to dance", in (35a-b) is an Arabic verbal root that functions as a noun in Persian. It corresponds to the simple verbal stem, *raqs-id-an* "to dance" (after // sign in (35a), which is derived according to Persian morphology). The nominal PV, *raqs*, has an x external argument denoting the person who does the event of dancing. In (36) the nominal PV, *šowhar*



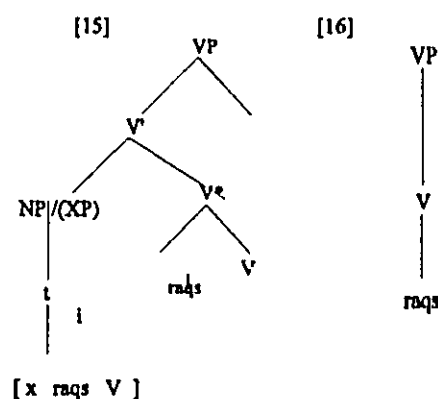
"husband", is a simple noun of the semantic notional type *instance* or *type*. It is not an event nominal in that it does not denote an event with some participants. It has a non-thematic external argument R. Both sets behave identically, and I will only study the first one which seems to be more interesting.

The LCS, and LRS of the CP in (35a) after conflation, is given in [14]. All the syntactic,

semantic and morphological properties claimed above for CPs with **kard-an** hold for (35a-b) and [14] as well. The complex head, **V***, in [14] counts as a verbal *morphological object* and may undergo morphological processes, e.g., infinitivization in (35b). The restricted constant (PV) **raqs** functions as the internal implicit object for the transitive **kard-an**, and detransitivizes **kard-an** so that the resulting CP in (35) turns into an intransitive, unergative CP.

The finite phrasal CP in (35a) is formed within V-bar, where the nominal PV substantiates the LV. V-bar is then predicated of the x external argument of the LV (which is identified with the x of the PV).

I claimed, in §2 of chapter 3, that a simple verbal stem, like **raqs-id-an** "to dance" in ((35a) after the // sign), is derived from its nominal root, **raqs** "dance", through the process of conflation (or copying) into an abstract empty verbal head in LRS, similar to what H&K (1988, 1991) argue for the unergative *laugh* in English. In [15] I give the LRS and LCS of **raqs-id-an** "to dance" after conflation and



[16] gives its s-syntax realization. As H&K claim the derivation in [15] counts as part of the mental knowledge of a native speaker. The existence of unergative CPs like **raqs=kard-an** as in [14] has been the major motivation for proposing a LRS representation and derivation like [15-16] for the simple unergative verbs like **raqs-id-an** (see H&K 1988, 1991).

We expect no corresponding CPs with unaccusative **šod-an** and the PVs in this section. The LV **kard-an** and the intransitive nominal PVs, in this section, form intransitive, unergative CPs. Assuming **šod-an** to be the auxiliary of the passive structures in MF, or an unaccusative, then

unergative monadic CPs in (35a-36a) cannot be passivized. Only transitive verbs passivize in MF. There is no direct internal argument (object) in (35-36), (and their LCSs/LRSs (14-16)), to function as subject of the corresponding passives, or unaccusatives, with *šod-an* as in (37-38):

37.a **(tavassote Homa)* xub raqs mi-šavad
 (by Homa) well dance IND-become.3S
 Homa dances well.

.b **raqs=šod-an*
 dance=become-INF "to become danced"

38.a **(tavassote Homa)* šowhar šod
 (by Homa) husband become.ps.-3S

.b **šowhar=šod-an*
 husband=become-INF "to get be married"

As explained above, there is no restriction for the finite CP within V-bar in (37a) to be ill-formed. The PV has the proper semantic properties and stands in the proper syntactic relation with respect to the LV to form a *generalized lexical integer*, phrasal CP, in s-syntax. The PV satisfies the subcategorization requirement of the unaccusative LV *šod-an* for a sole direct internal argument (object) and the LV does not lack any arguments by itself (see also ft. 10). However, the finite sentence (37a) lacks a subject and is rejected by predication. It is clear that an expletive element, like a null pro or lexical expletive, in the subject position of (37a-38a) could have saved these sentences. We must conclude that there are no expletive elements in the subject positions of them either. We seem to confront a sole VP in (37a-38a).

In summary, CPs formed with the LV *kard-an* and an intransitive noninal PV do not have corresponding CPs with the unaccusative LV *šod-an* since there would be no direct internal arguments (objects) to function as the subjects of the resulting CPs at s-syntax. And the sentences

would be rejected by the lack of predication (see fts. 11 & 13).

4.1.4 Some Problematic Data: Impersonal Passive Constructions

This subsection deals with some problematic data, classifiable under the classes of CPs discussed in § 4.1.2, and § 4.1.3, that seem to contradict part of the data and analyses proposed for the ungrammaticality of CPs with *šod-an*, (30-31-32) and (37-38), where the the PVs were intransitive. The data show that while some instances of *degenerate* finite phrasal CPs are possible, and are more or less frequently used at s-syntax in MF, their corresponding lexicalized, conflated CPs at LRS are potentially ill-formed. This of course implies that word-formation at LRS and/or morphological structure must be allowed to follow the syntactic derivation at the computational s-syntax and is sensitive to the well-formedness conditions at this level, and may be blocked by the latter. The following examples illustrate some of these constructions:

- 39.a 'ānhā be mardom-e bigonāh hamle=kard-and
they to people-EZ innocent attack do.ps.3PL
They attacked the innocent people.

- .b hamle=kard-an
attack-do-INF "to attack"

- 40.a (?tavassote 'ānhā) be mardom-e bigonāh hamle=šod
(by them) to people-EZ innocent attack become.ps.3S
The innocent people were attacked (by them).

- .b *hamle=šod-an
attack=become-INF "to be attacked"

- 41.a Ali talāš-hā-y-e ziyādi kard tā dar 'emtahānāt movaffaq šavad
Ali attempt-PL-EZ a lot do.ps.3S till in exams successful become.prs.3S
Ali made many attempts/tried to succeed in the exams.

- .b **talāš=kardan**
try do-INF "to make attempts, to try"
- 42.a **talāš-hā-ye** ziyādi barāye 'in kār (?tavassote Ali) **šod**
attempt-PL-EZ a lot for this job (by Ali) become.ps.3S
Much attempt was made for this job.
- .b ***talāš=šodan**

In (39) we have a CP formed with **kard-an** that is classifiable under CPs in § 4.1.2 where the nominal PV is intransitive but takes an indirect internal argument (PP) (cf. 25-26-27). Since the CP lacks a direct internal argument (object), we expect no corresponding CPs to be formed with **šod-an** because there is no object to function as the subject of CPs formed with **šod-an** (cf. 30-31-32). However, (40a) is strange, in that corresponding to (39a) we do seem to have a finite phrasal CP headed by the LV **šod-an**. What is the subject of the clause in (40a)? On the other hand, (40b) shows that there is no nominalized CP-INF ***hamle= šod-an** "to be attacked" in MF corresponding to (39b-40a). However, I have argued that for every finite phrasal CP (in s-syntax) there ought to be a potential lexicalized CP at the level of LRS formed through conflation. How can we account for the divergence between (40a) vs. (40b)?

Similarly, the phrasal CP in (41a) is formed from an intransitive nominal PV, which lacks an internal argument, and the LV **kard-an** (cf. (35-36) in §4.1.3), (the (adjunct) post-verbal sentence in (41a) can be ignored as it has no bearing on the analysis). In (42a), similar to (40a), we seem to have a finite phrasal CP with the LV **šod-an** which is unexpected since the CP **talāš=kard-an** "to make an attempt" in (41a) as a whole is intransitive and has no internal argument (object) to function as the subject of the clause, so we do not expect to have a CP with **šod-an** here either (cf. (37-38)). What is the subject of the clause in (42a)? (42b), however, shows that there is no nominalized

I will analyze only the pair (39)-(40) and the analysis extends to (41)-(42) and those in footnote (14) as well. The problem with the unaccusative CP (40a) is that its corresponding active CP with **kard-an** (39a) is intransitive (as in CPs in §4.1.2) and we expect (40a) to be ungrammatical since there is no object in (39a) to function as the subject in (40a). There seems to be no subject in (40a). The second problem is that if (40a) is acceptable then we expect the conflated CP-INF in (40b) to be acceptable as well, and it is not. (40a) is repeated as (43) below and the *by*-phrase is left out.

- Barjasteh (1983) claims that in (43) the nominal PV *hamle* "attack" is in the subject position. His example (Barjasteh 1983: 279, (5-52iv)) is given in (44). He claims that (44) is derived from the application of syntactic passivization to its corresponding active sentence (39a) resulting in (45).

- According to Barjasteh (1983: 267, 280) in (39a) the nominal element of the compound verb **hamle=kard-an** "to attack", i.e., **hamle** (N) "attack", acts as the DO of verb **kard-an**. **Hamle** is

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promoted to the subject position by the application of the syntactic passivization (Barjasteh 1983: 273, (5-43)) leading to (45). In (45) *šod* is the auxiliary of passive and follows the past participle of the verb (of the compound in (39a)) *kard-e* in (45). This is the procedure for the formation of periphrastic passives with simple transitive verbs in MF. However, he argues that due to a historical change in the language the past participle (ppr) in (45), *kard-e*, is obligatorily deleted leading to the surface form (44), (as well as (43) since (43) has an identical surface structure and meaning, and should have been derived through the same procedure); see Dabir-Moghaddam (1982a, 1982b, 1985) for a similar analysis of passives in MF.

I am sure Barjasteh agrees with me that word order in his (44) is marked and the nominal *hamle* has an emphatic intonation, contrary to the unmarked normal intonation and emphasis in (43). I disagree with Barjasteh that *hamle* is in the subject position in (44) (and (43)). He claims that the verb ending on *šod-*, (3S), agrees with the nominal *hamle*. The word order in (44) is marked, and it is (43) which is the normal unmarked order. Raising (DO-)NPs to subject positions in passive structures never leads to marked intonations and emphasis on the raised subjects. Comparing either (44) or (43) with its English gloss, we note that in the latter the deep DO, "the innocent people", functions as the subject of the English passive. However, the equivalent of "the innocent people" in MF is possible as a PP only (43-44).

The LVs *kard-an* in (39a), and *šod-an* in (40a)-(43-44) are empty and bleached predicates. They cannot be independently predicated of a subject-NP due to their bleachedness and they have to be substantiated by some predicative PVs within V-bar, and then be predicated of a subject in s-syntax. The nominal PV, *hamle*, in (39a)-(40a)-(43-44) is the substantiator of the LVs within V-bar and is part of the verbal predicate. That (44) is marked is due to the fact that the PV has been

reordered from its original position within V-bar. However, it has not undergone NP-movement of passive and is not in the subject position at all. If (44) were derived by application of syntactic passive to the corresponding active sentence (39a) and subsequent past participle deletion (45), then we would expect all the examples (30-31-32) (§ 4.1.2), and (37-38) (§ 4.1.3) with **šod-an** to be derivable from their corresponding active sentences with **kard-an** through the same process of passivization and be grammatical. However, the ungrammaticality of those examples is another serious problem for Bajasteh (1983).

In our theory the acceptability of (40a)-(43)-(44) is not the norm. These count as rare and exceptional instances of *degenerate predication*. The norm is, as we saw in § 4.1.2, 4.1.3, that such CPs with **šod-an** be ungrammatical (30-31-32) and (37-38). The ungrammaticality of the nominalizations, i.e., CP-INFs in (40b) and (42b), further supports the claim that (40a) is not a norm phrasal CP.

We already know the structure and analysis for the active CPs with **kard-an** in (39a) and (41a), so I will focus on the CPs with **šod-an** in (40a)-(43)-(44) only. It seems to me that (43-44) look like impersonal constructions in French and impersonal passives in German and Dutch, with the difference that in these languages the subject is shown to be occupied either by a lexical or a null expletive element (Siewierska 1984; Safir 1985) while the subject position in (43-44) is empty and no null pro or lexical expletive element appears in the subject position in (43-44) (see the discussion in § 4.1.2; 4.1.3). However, the selectional requirements of both LV **šod-an** and that of the nominal PV **hamle** "attack" are satisfied in (43-44). These sentences lack nothing that might be present in the LCSs and LRSs of **šod-an** or **hamle**. Notice the LCS of (43-44) in (46):

46. [c [[x [P z] hamle] šod-]]

Šod-an as a monadic LV satisfies its requirement for a single direct internal argument with the PV **hamle**. The PV **hamle** keeps its PP (Pz), **be mardome begonāh** "to innocent people" in (43-44). The x argument of **hamle** can only be realized as a *by*-phrase as in (40a) (see the discussion in § 4.1.1.) Furthermore, the PV **hamle** substantiates the LV within V-bar in (43-44) and counts as part of the verbal predicate and phrasal CP. So both these predicates satisfy their argument structures within (43-44). The only remaining point to determine is to find out what the phrasal CP **hamle šod-** in (43-44) is predicated of. What is the subject in these sentences? My answer is that there is no lexical element, neither is there a null expletive *pro* in the subject position of (43-44). We seem to confront a $\bar{V}P$ in (43-44).

These are indeed rare constructions. Recall that I argued, and emphasized that the lack of a null expletive *pro* in the subject position of the constructions similar to (43-44) in MF, i.e., (30a-31a-32a) in § 4.1.2 and (37a-38a) in § 4.1.3, lead those sentences to be ungrammatical. Those sentences were rejected due to lack of proper predication to a subject, be it lexical or null *pro*. Now, assuming that there is a null *pro* in the subject position of the phrasal CP **hamle šod-** in (43-44), which belongs to the set of CPs in § 4.1.2, and proposing that **hamle šod-** in (43-44) is predicated of this null *pro* in the subject position would result the ungrammaticality of sentences in ((30a-31a-32a) in § 4.1.2 and (37a-38a) in § 4.1.3) to be unaccounted for. I conclude that (43-44) are cases of *defective, degenerate predication*, and the subject positions in these sentences are empty. In fact, there is no NP-IP position in (43-44) as we see by the lack of subject agreement affixes on the verbs in (43-44) & (42a)¹⁵. They are cases of VPs.

¹⁵In a recent study of complex predicates in Persian, Ghomeshi (1996:276-285) extends her analysis of transitive CPs to explain similar cases of impersonal constructions with intransitive verbs. She notices that in impersonal constructions the intransitive light verbs (which are indeed inchoatives, unaccusatives) take a predication phrase as complement/PV and

Perhaps one could argue that *hamle šod-* in (43-44) is predicated of the PP, *be mardom-e bigonāh* "to innocent people" (not in subject position though). Notice that the English equivalent of this PP in (43-44) is an NP and occupies the subject position of the passive in English glosses in (43-44). Similarly, perhaps the phrasal CP in (42a), i.e., *talāš-hā-ye ... šod-* "attempts were made", is predicated of the PP, *barāye 'in kār* "for this job". Cases of degenerate predication to locative PPs have been argued by Rothstein (1983), Torrego (1989) for Spanish. While I do not have a very plausible account for the grammaticality of (43-44) and (42a), which are expected to be ungrammatical, my analysis rejects the occurrence of a null *pro*, or a lexical element in the subject position of these sentences. They lack a subject position as we note by the lack of subject agreement. We seem to have only a VP in (40a-42a-43-44).

If the phrasal CPs in (40a-43) and (42a) are just normal cases of V-bar in MF, then they are expected to have corresponding conflated CPs at the LRS as well. The absence of conflated CPs

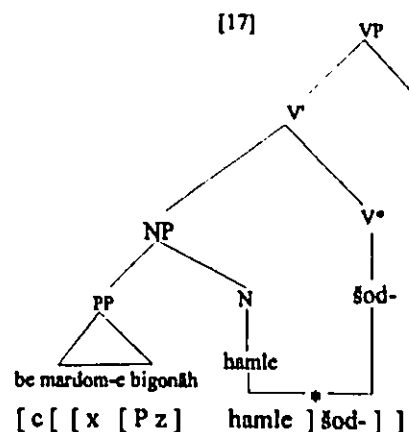
project only to a verb phrase (VP) since they also lack subject agreement affixes on the verb. However, her set of impersonal constructions differ in that they involve a subject pronominal enclitic cliticized to the PV, as in (i):

- (i) a. *xāb-am āmad*
 sleep+1sg came "I was/felt sleepy" Ghomeshi 1996:276, (102b)
- b. *az ān xosh-esh āmad*
 from that good+3sg came "S/he liked that." Ghomeshi 1996:277, (103b)

Ghomeshi analyzes (ia-b) as instances of a VP where a subject position is unavailable in the clause, just like our analysis above. I believe that the *degenerate impersonal CPs* under study in this section and her *impersonal construction* (ia-b) are similar phenomena. However, since she is not studying the wordhood and morphological properties of CPs in Persian, she does not discuss wordhood properties of the CPs in impersonal constructions (ia-b). In the list of such impersonal CPs that she provides (Ghomeshi 1996: 277, (105), given in CP-INF form, many are actually impossible *morphological words*, and those which are acceptable have a meaning different from their intended interpretations in the impersonal constructions. Thus, a complex word as **xāb bord-an/āmad-an* "sleep=to take/go, to fall asleep" is actually an impossible compound word in Persian, while (ia-b) are perfectly well-formed. I believe this is also due to the lack of proper predication, or a *degenerate predication* at s-syntax which prevents a later application of word-formation at LRS or morphological structure. This further confirms the analysis of impersonal passives above and the interactive relationship of the syntactic component with word-formation component (LRS). However, her analysis of CPs is very insightful and takes the PVs as predicates that project predicate Phrases.

corresponding to (40a)-(42a) is shown by the ungrammaticality of (40b)-(42b). This observation is also in accord with the ungrammaticality of similar conflated CP-INFs in § 4.1.2, no. (30b-31b-32b), and (37b)-(38b) in § 4.1.3. Let me show the LRS for (40a)-(43) in [17] below (which also accounts for (42a-b) and for the examples in footnote 14).

Compare [17] with [13] in § 4.1.2 above. All the discussion for the impossibility of conflation in [13] applies here as well. It is clear that the head of PV does not conflate into the unaccusative verbal head in [17] to form *hamle=šod-. If it did, we would expect the CP-INF *hamle=šod-an (42b) to be grammatical, which it is not. No other morphological process applies to this complex head



either. We argued that conflation is impossible, among others, due to the lack of predication to a subject in the corresponding finite phrasal CPs, (40a, 43), that prevents conflation and word-formation at the following LRS level (see § 4.1.2, the discussion for [13], and fts 11-13).

Now if we assume that CPs are initially formed at the LRS and/or morphological structure, [13] & [17], and then used, projected, or inserted at the computational s-syntax and/or PF level, we would expect the sentences (40a, 42a, 43-44) with degenerate finite phrasal CPs to be ungrammatical as well since they have no corresponding lexical forms at LRS. The observation clearly indicates that theory of grammar must allow word-formation and derivation to occur parallel to, and after the syntactic computational component (cf. parallel morphology Borer 1988; distributed morphology Hale & Marantz 1993, 1994; and Jackendoff 1994).

To sum up, the impossibility of conflation in (40b)-(42b) has the desired result for my analysis

of CPs with intransitive PVs in this section and § 4.1.2, 4.1.3. The phrasal CPs, V-bars, in (40a) and (42a) are rare and exceptional cases of *defective* or *degenerate predication* with no lexical or null element at their subject positions. Recall from chapter 2 that phrasal CPs are subject to *predication condition*, but CPs in (40a, 43, 44) and (42a) are not predicated to a subject. Ungrammaticality of conflated CPs (40b)-(42b) immediately supports the exceptional and defective nature of these constructions (43)-(42a) with *šod-an* in this section versus those in § 4.1.2, 4.1.3.

The observations with regard to CPs with *šod-an* in this section and § 4.1.2, 4.1.3 clearly indicates that CP-formation in MF is a s-syntactic phenomenon which is subject to the *predication condition* among others (cf. chap 2-3). Conflation and lexicalization at LRS and/or morphological structure may follow if the syntactic conditions, e.g., predication, are already met. Given these observations, (47) seems to be a plausible descriptive generalization concerning CP-formation in MF:

47. CP-formation is initiated at the computational s-syntax in MF. The substantiated CP within V-bar is subject to the *predication condition*. Only if the predication condition is properly met at the computational syntactic level, may there be followed a corresponding conflated head at LRS as well.

4.1.5 Small Clause Complements and CPs with Causative *kard-an* and Inchoative *šod-an*

There is an abundance of productive and transparent CPs in MF with *kard-an* and *šod-an* and an adjective PV. *Kard-an* in the CPs studied so far functioned as a simple, transitive activity LV taking a nominal PV as the name of its action in its object position. In CPs of this section, *kard-an* functions as a causative verb literally meaning "to make" rather than "to do" and selects an adjectival small clause as its complement. *Kard-an* is causative in the sense that it introduces an x external argument into the clause (which it does not share with the PV within V-bar). Recall that in the CPs studied so far, it was always the case that the x external argument of *kard-an* had to be identified

48.a 'āftā b golhā rā xošk kard \ (xošk-ān-(i)d)
sun flowers RA dry make/do.ps-3S (dry-CS-3S)
The sun withered the flowers.

- As we saw in chapter 3, § 2, adjectives belong to the *universal category adjective* which are inherently predicates. Adjectives take a subject but never a complement/object, that is they have a specifier position but never a complement. In other words, adjectives head a stative small clause with a subject. The small clause functions as the complement/object of the causative hamkard **kard-an** and the unaccusative hamkard **šod-an** in s-syntax and l-syntax or LRS. The LCS of both (48a) and (49a) is provided in (50):

In (50) **kard-** in the superordinate clause functions as a causative verb that introduces the *x* external argument into the LCS. It takes an inchoative VP as complement, i.e., **šod-**. All inchoatives contain/lead to a state shown by the STATE adjectival predicate (or small clause) in (50) where *y* is the subject of the adjective. V in the STATE clause denotes an empty verbal head like a copula, **bud-**

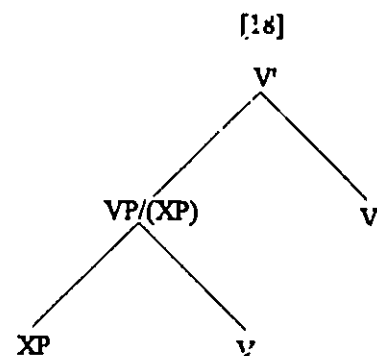
an be as the head of the small clause.

The x external argument of **kard-** in the superordinate clause is not identified/coindexed with an x external argument of the PV. The adjectival PV in (50) has no x external argument in its own LCS contrary to the nominal PVs in the previous sections. **Kard-** in (48-49) and (50) has a causative function since it introduces *an* (agent) external argument upon an inherent predicate, i.e., the essential meaning of a causative function, (see Grimshaw & Mester 1988 for a similar causative use for the Japanese LV *suru* "to do").

The LCS of **šod-an** is identical to the LCS of **kard-an** (50) and is contains within the superordinate CAUSE which shows that the event is *externally caused*, as simplified in (51):

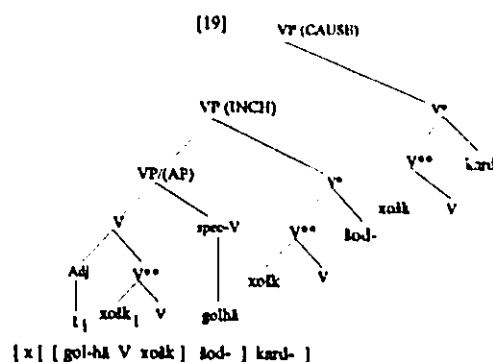
51. [CAUSE C [INCH [STATE y V **xošk**] **šod-**]]

The LRS [1] above, repeated as [18], reflects the LCS (50) and sentences (48a-49a). In [18], the higher V' corresponds to the causative **kard-**, and the lower VP/(XP) to the inchoative, unaccusative **šod-**. The STATE adjectival clause in (50) corresponds to XP/AP complement of the lower V in [18]].



In [19], the LRS of (48-49) after conflation, the lower VP/AP stands for an adjectival small clause where the adjective **xošk** "dry" counts as the complement of an abstract copula V head, and **gol-hā** "flowers" counts as its subject or specifier. The adjectival complement first conflates into head V, forming V**, (since the V is empty, this results in an abstract deadjectival V dominating the adjective). The V** then conflates into the head of the lower inchoative verb, i.e., **šod-** in [18-19] forming the inchoative, unaccusative complex head **xošk=šod-** "to dry up". The complex inchoative

head can now undergo morphological processes like CP-INF in (49b). Notice the interesting result that the complex head **xošk=šod-** as an unaccusative verbal head has a direct internal argument (object), in the Spec of the stative VP/AP, which can then function as the subject of the unaccusative CP, (49a), i.e., **gol-hā** "flowers".



However, the stative de-adjectival verbal head V** in [19] may still raise one step higher into the causative head of **kard-** to form the complex head **xošk=kard-**, a *morphological object* that can then form the CP-INF **xošk=kard-an** "to dry" in (48b) and may undergo other morphological processes like **xošk=kon-ande** "drier" and **xošk-kon** (N) "drier". It has a direct internal argument, that is **gol-hā** "flowers" in the Spec of the stative verb in [19], that functions as its DO, (48a). Thus, we observe that the DO of the causative verb counts as the surface subject of the lower unaccusative verb, i.e., **golhā** corresponding to the *y* variable. Yet *y* counts as the direct internal argument for both the causative and the unaccusative verb, i.e., a perfect *ergative alternation* pair. The *x* external argument is not present in the LRS [18-19], but is available in the LCS that functions as the subject in (48a), 'āftāb "sun". Given that the s-syntax GFs of the arguments in [19] will be isomorphic to those in [19], excluding conflation, I will not separately analyze the s-syntax substantiation of the AP, **xošk**, within the V-bar here. Substantiation will form a *generalized lexical integer*, or a phrasal CP, in s-syntax as in (48a-49a).

Now let me return to the simple verbal stems, or de-adjectival verbs, after the // sign in the parentheses in (48-49), derived from the adjective **xošk** "dry". The CPs in (48-49) can be replaced with the simple verbs in the parentheses. As argued in detail in Zand (1991) **xošk** "dry" is one of the

Recall the analysis for the derivation and conflation of the simple unergative verbs *laugh*, and *jang* "war" from the nominal roots in MF, English and Basque (H&K 1988, 1991; § 4.1.1); and chapter 3). The presence of de-adjectival verbs in MF provides further evidence for the conflation analysis. I believe that the verbal stems in the parentheses in (48-49) are derived or copied from the corresponding adjectival root, *xošk* which occupies the complement position of an abstract copula just like [19] (see Hale et. al. (1994) for a similar process for the derivation of stative verbs from adjectival and attributive nominal complements in Igbo). I suggest a conflation process identical to [19] above to derive the simple inchoative verb *xošk-id* in (48), and the causative verb stem *xošk -ān-id* in (49)¹⁶.

[20]

VP(CAUSE)

VP(INCH)

VP

VP/(AP)

V*

V

Adj

spec-V

V**

V

t₁

xolk₁

gol-hi

xolk-

V

xolk-

V

[x -in [V [gol-hi V xolk]]]

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an "to wither up" (49c) corresponding to the inchoative CP **xošk=šod-an** "to wither up" in (49b). Both the verbs are inchoative, unaccusative and stand in identical configurations in [19-20]

The head **V**** can conflate one step higher to the causative verbal head, filled by the causative suffix **-ān**, to form the present stem **xošk-ān-** (V), that then forms the past stem **xošk-ān-(i)d** (48a) and the causative infinitive form **xošk-ān-(i)d-an** (48c) corresponding to the causative CP **xošk=kard-an** (48b). As causatives they both provide the x external argument, not present in LRS

The syntactic representations [19-20] provide an identical analysis for the formation of simple de-adjectival verbs and CPs in (48-49), and reveals their identical deep syntactic relationships straightforwardly. The process of CP-formation with adjective PVs and the two LVs is one of the most frequent, productive, and transparent CP-structures in MF, and the resulting conflated heads enter into numerous morphological processes. However, there is one major restriction which deserves examining at this point, i.e., *predicate restriction* (cf. Milsark 1974, 1977, chap 2). Only stage level adjectives, and not individual level adjectives, may substantiate the LVs within V-bar, i.e., an existential context, and form respective conflated CPs at the level of LRS.

Stage level predicates attribute a temporary property or trait to a stage of an individual at a particular time and place, and denote changeable properties, while individual level predicates denote permanent, enduring, and essential properties/traits of an individual (Kratzer 1989; Diesing 1992; Stowell 1991). Thus an individual level predicate cannot combine with an inchoative verb like **šod-an** which by definition denotes a (sudden), spontaneous change of state and transition into a new state. Neither may an individual level predicate form a CP with the causative LV **kard-an** which would convey causing a change in a permanent trait or property of an individual.

It is known that there are many adjectives and predicates that due to their inherent meaning,

as well as discourse and pragmatic factors, may be used both as stage and as individual level predicates. In these cases there are borderline, mixed judgements and sometimes disagreements. In general the mixed adjectives form better phrasal CPs at s-syntax but do not lend themselves to lexicalization at LRS. Even in the former case they form better phrasal CPs with *šod-an* than with *kard-an*. Note (52):

- 52.a *talāš-e ziyād Ali ro tiz-huš kard-e
 effort-EZ a lot Ali RA intelligent/sharp made-perf.3S
 Hard work has made Ali intelligent.
- .b ??/*Ali (bar 'asar-e talāš-e ziyād) tiz-huš šod-e
 Ali (because of effort-EZ a lot) intelligent/sharp become-perf.3S
 Ali has become intelligent (because of hard work).

Being intelligent is normally assumed to be an inherent, permanent property and is not expected to be changed or be attained due to hard work which shows why (52a-b) are illicit. However, (53) is acceptable when mentioned as a sign of exclamation and surprise, i.e., a trait unexpected of Ali.

53. Ali, tāzegi xeyli tiz-huš šod-i
 Ali recently very intelligent become-perf.2S
 Ali, you have become very intelligent recently!

Yet there is no nominalized CP-INF *tiz-huš=kard-an and *tiz-huš=šod-an in MF. Lack of conflation in the case of individual level predicates, but their mixed behaviour and acceptance in s-syntax (52 vs 53) indicates the influence of discourse and pragmatic factors on Persian syntax. It also indicates the s-syntactic formation of the (phrasal) CPs precedes their lexicalization and conflation. Conflation and lexicalization of the CPs in (52-53) may occur after/parallel to syntactic derivation if the syntactic and semantic conditions are met.

Hale et. al. (1994) argue that categories A and N are non-distinct in Igbo, and Ns show categorial properties of the universal category A and may be used attributively like As. The copula

plus Ns function predicatively and form stative verbs. They also show that many stative verbs in Ġbo are copied from their complements, i.e., predicative, attributive Ns, like **xoškíd-an** "to dry up", in [20] above, through conflation. In MF some nouns, with a slight extension and sometimes distortion of their original meaning (cf. Sadeghi & 'Arzhang 1980: 136, Vol . III) may also be used attributively. In this case they exhibit categorial properties of As and require a subject but no complement. As such they form CPs with both the causative **kard-an** and the inchoative, unaccusative **šod-an** as discussed in this section. Among these nouns are **xar** "donkey", **xun** "blood", **mard** "man", **heyvān** "animal", **zaxm** "wound", **majruh** "wounded", **qofl** "lock", **xalās** "released", **jam'** "addition", **galāviz** "grappling", **movājeh** "confront", and **ru-be-ru** "face-to face", etc. I suggest a LRS like [19] for these nouns in their combinations with these two hamkards. The nouns occupy the complement position of the empty copula in the VP/XP embedded within the inchoative VP in [19] and conflate into the higher verbs as discussed above.

4.2 Conclusion

In this chapter I have studied CPs with the LVs **kard-an** and **šod-an**. In § 4.1, I showed that **kard-an** functions as a transitive LV and selects a predicative nominal PV as its complement/object. The PV substantiates **kard-an** within V-bar and forms a phrasal CP with it. The PV may also conflate into the verbal head at LRS. CPs with **kard-an** may have contrastive unaccusative CPs with **šod-an** only if the nominal complement/PV is transitive and selects an object by itself. This argument then acts as the DO of the CP with **kard-an**, but as the subject of the unaccusative CP with **šod-an**.

I also discussed the use of **šod-an** as the intransitive alternant of ergative alternation verbs. I argued that **šod-an** counts as an externally caused verb and should have an explicit or implicit cause

as part of its LCS. **Šod-an** corresponds to the central subevent of causative/transitive LCSs/predicates denoting an inchoative, unaccusative event. Being in the central subevent, **šod-an** lacks an *x* external argument. The inchoative subevent denotes an spontaneous change-of-state event and contains a single complement, *y*. However, the LV must be substantiated by forming a CP. The LV **šod-an** takes a predicative nominal/PV as its internal complement, *y*, and may form a CP with it only if the predicative nominal is transitive, and has an object. The object functions as the subject of the CP with **šod-an** and the DO of CP with **kard-an** § 4.1.1. When the predicative nominal lacks an object, it may only form CPs with **kard-an**, but not with **šod-an** § 4.1.2, 4.1.3. In any case, an external cause is part of LCS of **šod-an**. Section 4.1.4 discusses some problematic data of § 4.1.2, 4.1.3. The major result of section 4.1.4 as well as sections 4.1.2, and 4.1.3 is that conflation and word formation is sensitive to syntactic derivation of the CPs, and may be blocked by the syntactic conditions. Hence, word-formation (at LRS) must be allowed to follow the syntactic derivation at different stages. In § 4.1.5, **kard-an** functions as a causative LV which directly selects an inchoative event (V') that embeds an adjectival small clause. We showed that the small clause may have the structure of a stative VP with an abstract head, an attributive adjective (or nominal) complement, and a subject at Spec of the abstract head. This configuration then accounts for a very productive set of CPs as well as cases of simple de-adjectival verbs in MF.

Chapter V

CPs with Lexical Thematic Verbs & Passive

5.0 Introduction

CP-formation as a syntactic process affects primarily those verbs that are light, i.e., *bleached predicates of existence*, (6) in chapter 2. However, full, thematic verbs may also undergo CP-formation according to the same semantic, and syntactic principles as the majority of the CPs formed with LVs (cf. chapters 2-3). In § 5.1, I will analyze this process with respect to the full, thematic verb *foruxt-an* "to sell". We will see that when the complement, DO, of this verb is weak, indefinite, and has an existential reading, it has an effect on the aspectual type of the verb in that it pushes back the semantic substance or the non-logical content of the main verb. We will refer to this as reducing or *backgrounding* the aspectual adicity of the transitive verb. This will produce a syntactic context that is reminiscent of DE. As a result, the (bare) weak object can form a phrasal CP with the full verb within V-bar at s-syntax and at l-syntax.

In § 5.2 I will study passive structures with *šod-an* "to become" and argue that passive in MF can be subsumed under CP-formation and be analyzed according to the same principles we discussed for CPs with LVs. I argue that passive is non-existent in MF. There are only inchoative structures, or inchoative passives with the unaccusative LV *šod-an* that are instances of CPs (cf. similar to Moyne 1970, 1974; and Bashiri 1973). In § 5.3, I compare the structure of ergative alternation verbs like *šekast-an* "to break" and their inchoative passive forms with *šod-an* and reveal their similarities and differences.

5.1 V-bar and LRS of CPs with Lexical, Thematic Verbs

Full, lexical, or thematic verbs like *eat, write, see, say, kill, read*, etc, select some particular entities or nouns as their complements. Thus, one can *write a letter, a book, a lesson, a history*, but not *an apartment, a house* etc. There are not many simple verbs in MF, their total number probably does not exceed 130. Many simple, full transitive verbs are not frequent and are taken over by CPs, or are less frequent than the corresponding CPs which are formed from a nominalized form of the verb and a LV. Thus the simple transitive verb **pardāxt-an** "to pay" is associated with the CP **pardāxt=kard-an** "to pay". The passive form of the former (simple verb), formed with its past participle, **pardāxt-e=šod-an** "to be paid" is associated with the unaccusative CP of the latter (CP), **pardāxt=šod-an** "to be paid". In both cases the CPs are more frequent and colloquial than the latter, which are formal.

In this section, I will analyze the V-bar and the LRS for the full, thematic verb **foruxt-an** "to sell". The analysis extends to all the similar simple full, thematic verbs that undergo CP-formation.

1. Amir ketāb rā be Homa foruxt
Amir book RA to Homa sell.ps.3S
Amir sold the book to Homa.
2. Amir be Homa ketāb foruxt
Amir to Homa book sell.ps.3S
Amir sold books to Homa.

Ketāb "book", the DO of the simple full verb **foruxt-an** "to sell" in (1), is a strong specific noun with a strong interpretation, and receives strong, objective case as we note from *rā* (cf. chapter 2). However, **ketāb** in (2) is weak, non-specific and must stay adjacent to the verb within V-bar. **Ketāb** in (2) will have an emphatic or topicalized intonation/interpretation if it scrambles to the position before the PP, contrary to the strong **ketāb** in (1), a referential argument, which may scramble freely

in the clause. The weak object, *ketāb* in (2), conveys an existential reading introducing the set of books into the domain (see chapters 2-3; Diesing 1992; Enç 1991; de Hoop 1991, 1992). Note the passive sentence (3):

3. *ketāb* (*tavassote Amir*) *be Homa* *foruxt-e šod*
 book (by Amir) to Homa sold.ppr became.ps.3S
 The book was sold to Homa by Amir.

The semantic interpretation of *ketāb* in the subject position of the passive (3) is only the strong and specific reading of the DO in (1) and not the weak reading of the DO in (2). (3) is the passive of (1) and not of (2) which cannot be passivized. The DO, *ketāb*, in (2) is not a real argument but a predicate of the main verb, i.e., of the type $\langle e, t \rangle$. It enters into theta-identification relation with the main verb so that *ketāb* in (2) is a predicate modifier $\langle e, t \rangle, \langle e, t \rangle$, and counts as part of the verbal predicate of the clause within V-bar, denoting an activity of "book-selling" (cf. chapter 2). As a result the weak DO pushes back or *backgrounds* the non-logical semantic content of the full transitive verb in (1), which denotes a two place telic relation of selling *y* (to *z*) by *x*, to a one place atelic activity predicate of *y*-selling (to *z*) by *x*, an intransitive verb in (2). The aspectual property of (2) is very similar to intransitive CPs formed with *kard-an* and nominal PVs studied in § 4.1.2, 4.1.3, chapter 4. The weak DO in (2) receives weak objective case directly from the verb (cf. chapter 2).

By the definition of the *generalized lexical integers* (4 & 8 & 16) in chapter 3, § 3.1.2, *ketāb* in (2) does not need a theta role, since it is not an argument. Neither does it have to be construed as an argument (cf. Grimshaw & Mester 1988; Chomsky 1981; Cattell 1984), so it does not require a quasi-theta-role either. This move dissociates the definition of *generalized lexical integers*, and argumenthood from theta-role assignment (see 4 & 8 & 16 in chapter 3).

Dowty (1979) uses time adverbial modifiers to distinguish the aspectual event types of

predicates and sentences (cf. Vendler 1967; Van Valin 1990, 1993). Time adverbials with *in*, frame adverbials (*in an hour*), indicate that a predicate or sentence denotes an accomplishment (or achievement) while durative modifiers, *for*-phrases (*for an hour*), indicate that the event is a process/activity (see chapter 3).

- 4.a Amir ketāb rā dar panj daqīq be Homa foruxt
 Amir book RA in five minutes to Homa sell.ps.3S
 Amir sold the book to Homa in five minutes.
- .b ??Amir dar panj daqīq be Homa ketāb foruxt
 Amir in five minutes to Homa book sell.ps.3S
 Amir sold books to Homa in five minutes.
- 5.a *Amir ketāb rā be moddat-e panj daqīq be Homa foruxt
 Amir book RA to time-EZ five minutes to Homa sell.ps.3S
 Amir sold the book to Homa for five minutes.
- .b Amir be moddat-e panj daqīq be Homa ketāb foruxt
 Amir to time-EZ five minutes to Homa book sell.ps.3S
 Amir sold books to Homa for five minutes.

The adverbial *in five minutes* in (4a) reveals that the sentence is an accomplishment. While this is fine for (4a) where the DO is a specific, full-fledged argument that delimits and measures out the event denoted by the main verb, and as such enforces the telic interpretation of the predicate and sentence, it seems to be awkward to use the same time adverbial in (4b) which tends to indicate a one place activity predicate of *book-selling*¹. The adverbial *for five minutes* is possible with the atelic, process/activity predicate in (5b) while it is unacceptable with (5a), a telic accomplishment (Dowty 1979: 56).

According to Windfuhr (1979), (citing from Kurylowicz 1950), the verbal prefix *mi-* in MF

¹ As far as (4b) seems to be acceptable, it indicates that the activity of *book-selling to Homa lasted for five minutes* which is not the intended meaning of the *in-adverbial*. (4b) will be totally ungrammatical if the optional PP is absent from the clause. The number of participants have a bearing on the aspectual (a)telicity of a predicate (Dowty 1979; Hopper & Thompson 1980). The sentences in (4-5) display better and sharper grammaticality judgements if the optional PP *be Homā* is absent from these sentences.

is used to mark the present (both durative and neutral general present (indicative)) as well as past durative, and conditionals hence denoting the imperfective aspect. He states, on the basis of Lentz (1958) and MacKinnon (1977), that "mi- appears to express the absence of any limitation of an event in terms of its beginning or end, be it temporal or factual!" (Windfuhr 1979:87). Thus, we expect mi- to be acceptable with (2) which tends to indicate an atelic, unbounded process, but to be unacceptable or awkward with the accomplishment, telic event in (1) as in (6). Mi- emphasizes the duration of the event in (6):

- 6.a ??/*Amir ketāb rā (be Homa) mi-foruxt². (1)
 Amir book RA (to Homa) IND-sell.ps.3S
 Amir used to sell the book to Homa
- .b Amir (be Homa) ketāb mi-foruxt (2)
 Amir to Homa book IND-sell.ps.3S
 Amir used to sell books to Homa.

Again dropping the optional PPs, and using (6) with the *for*-phrase adverbials make the distinction between (6a) and (6b) sharper³ (see also Ghomeshi & Massam 1994: 190-191) for a similar argument

²This sentence can/may be grammatical in other contexts, when it does not have the intended durative *used to* reading, e.g. with the conditionals preceded by 'agar "if" (cf. Windfuhr 1979), and as an embedded subordinate clause. Use of colloquial style marks a sharper distinction in grammaticality between (6a) vs. (6b).

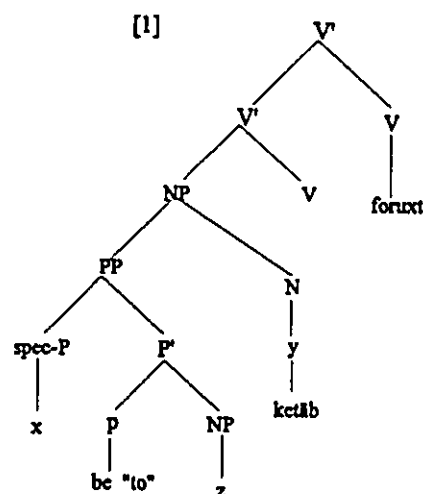
³Notice that this approach envisages a scalar notion of transitivity like that of Hopper & Thompson (1980). According to this view transitivity of a predicate and a clause is a scalar notion affected by different pragmatic, semantic, and syntactic factors in the (transitive) clause, i.e., mainly the degree of volitionality of the event, agency of the subject, punctuality, the degree of affectedness of the object, individuation and referentiality of the object, telicity, and the number of participants/or subcategorized VP complements in the clause, etc. The presense or absence of each of these semantic and pragmatic notions in a clause, and the degree of prominence of each of these features in a clause can cause the scale of transitivity of a sentence to be increased or decreased.

However, they try to derive the grammatical and semantic prominence of transitivity from its characteristic discourse functions where "high transitivity is correlated with foregrounding, and low transitivity with backgrounding".

In a cross-linguistic study they find that in a wide range of languages which morphologically or syntactically (e.g., case and word order,) distinguish between transitive vs. intransitive clauses and between definite vs. indefinite objects, there is a tendency to associate indefinite objects with intransitive clauses and intransitive markers; either as morphological or phonological markers on the verb and object, or in the word order. That is to say, when the object (of a transitive verb) is indefinite or non-referential, the verb may be assigned to the morphosyntactic class of "intransitive verbs". The general tendency is that indefinite, non-referential objects tend to coalesce with the verb; the two constituents are closer to forming a single unit than when the object is definite. This might show up in word-order (Hungarian), or in other morphosyntactic

on the effect of the non-specific DO with respect to aspectual properties of compound verbs in MF; Tenny 1987 on the delimiting effect of affected DOs on the aspectual properties of transitive verbs; Hopper & Thompson 1980 on the scalar property of prototypical transitivity).

These results indicate that we have a bounded, telic predicate in (1) that scores high in the transitivity continuum with a full-fledged, affected, referential DO that measures out and delimits the event denoted by the transitive predicate. As a result the non-logical substance of the verb in (1) is *foregrounded*. However, in (2), we seem to have an atelic process/activity predicate very low in transitivity scale with a weak DO that functions as a non-referential, predicative



complement and as part of the main verbal predicate of *selling*, i.e., *book-selling*. Here the non-logical substance of the verb is pushed back and is *backgrounded*.

Given these observations, I conclude that the weak DO is within V-bar in (2), and [1], and forms a *generalized lexical integer*, or phrasal CP, with the verb. It does not substantiate the verb, rather it backgrounds the non-logical content of the verb. We may call it a *non-substantive nominal PV* as opposed to the PVs with true LVs that can be called *substantive (nominal) PVs*. The syntactic representation of (2), and its LCS are given in [1] and (7). *Foruxt-an* has a complex LCS and I use a simplified version (see Jackendoff 1990: 191 for a more detailed conceptual structure for "sell"):

7. *Foruxt-an*: [x cause [GO_{poss} y [from x to z]]]

markers either on the verb or on the object or both as in Tongan, and Chucsee (see Hopper & Thompson 1980 for an interesting discussion and data).

Given the syntactic configuration in [1] and the semantic properties in (2), **ketāb** may conflate into the empty inchoative head and then into the higher causative verb to form **ketāb=foruxt-**, a morphological object formed according to syntactic principles, i.e., a *syntactic word*, and a X^0 -level complex verbal head. In the conflated diagram [2], I have used the present stem of the verb **foruxt-an** "to sell", **foruš-**, which is the root from which the past verbal stem and many de-verbal nominal forms are derived (Cowan & Yarmohammadi 1978).

[2]

```

graph TD
    V_prime1[V'] --- V_prime2[V']
    V_prime1 --- V_star[V*]
    V_prime2 --- NP1[NP]
    V_prime2 --- Y1[Y]
    NP1 --- PP[PP]
    NP1 --- N1[N]
    PP --- spec_P[spec-P]
    PP --- P_prime[P']
    spec_P --- x[x]
    P_prime --- p[p]
    P_prime --- NP2[NP]
    p --- be["be 'to'"]
    NP2 --- y[y]
    V_star --- k'etib[k'etib]
    V_star --- f'orul[f'orul]
  
```

8.a	foruš-i (N) sell.prs-	"for sale; the activity of selling"
-----	--------------------------	-------------------------------------

.b	foruš-ande	"seller"
9.a	ketāb=foruš-i	"bookstore; the activity of book-selling"
.b	(i) *ketāb=foruš-ande	
	(ii) ketāb=foruš (N, V)	"book-seller"
	(iii) ketāb=foruš-ān	"book-sellers"
	(iv) ketāb=foruš-hā	"book-sellers"
	(v) ketāb=foruxt-an	"to sell-books"

The suffix **-i** is one of the most frequent and productive suffixes in MF, used for different semantic purposes and added to categorically different types of lexical roots/stems. In (8a) it is added to the present verbal stem **foruš-**. However, **-i** (in (9a)) may also be added to nouns/adjectives denoting a vocation, job, or action to result in a derived noun which refers to the event related to that vocation, job, or action, like **najjār** "carpenter", **najjār-i** "carpentry", and **kuzeh-gar** "pot-maker", **kuzeh-gar-i** "pottery". These derived nouns may also refer to the location where the job or vocation (denoted by the nominal root) is carried out. Thus, in (9a) the suffix **-i** is added to the nominal stem **ketāb=foruš** "book-seller" (in (9b-ii)) to give **ketāb=foruš-i** meaning both "book-store", and "the event/activity of book-selling".

The simple (verbal) stem **foruš-** does not by itself denote a job or vocation, i.e., "seller", to which **-i** (of (9a)) could have been added to give (8a), and from which (9a) could have derived through a subsequent step of compounding with **ketāb**. That is, (9a) when it means "book-store", is derived by affixing **-i** directly to the complex deverbal nominal **ketāb=foruš** "book-seller", and not to **foruš** alone. The structure of (9a) is **[[ketāb= foruš-] -i]**, and not ***[ketāb= [foruš-i]]**.

However, the other meaning of (9a), "the activity of book-selling", may still be argued to have derived from (8a) as the base, and subsequent compounding with **ketāb** at a later stage, i.e., **[ketāb= [foruš-i]]**. This involves a case of bracketing paradox that would contradict my claim that

(9a) is derived from affixing **-i** directly to the complex head.

However, there are derivations with similar transitive verbs like **xord-an** "to eat", and **košt-an** "to kill" that support my analysis. There are no derived forms parallel to (8a) with these verbs, e.g. ***xor-i**, and ***koš-i**. The complex verbal heads (CPs) formed with these two verbs, e.g. **qazā=xor-** "food-eat", **nahār=xor-** "lunch-eat", **'ādam=koš-** "human=kill", **pedar=koš-** "father-kill" (all present stems which might not be free forms), form derivations like (9a) with **-i** (and zero derivations like (9b-ii)), e.g. **qazā=xor-i** "the activity of food-eating; the place to eat food", **nahār=xor-i** "the activity of lunch-eating; and the place to eat lunch", **'ādam=koš-i** "the act of killing people, homicide", **pedar=koš-i** "the act of father-killing, patricide". These forms could only have been derived by affixing **-i** directly to the complex verbal head since the simple verb forms with **-i** are impossible. That is, the structure of these forms, and as a result (9a), is **[[N= V] -i]** and not ***[N= [V-i]]** since the form ***[V-i]** is already impossible.

The suffix **-ande** (parallel to agentive **-er** nominals of English) is added to the simple verbal stem **foruš-** to give **foruš-ande** "seller" in (8b). This agentive noun cannot satisfy its DO within the noun to give say ***ketāb=foruš-ande** "book-seller" (9b-i), while it may do so outside as in **foruš-ande-y-e ketāb** "the seller of the book". Had (9b-i) been grammatical, it might have been possible to argue that **ketāb** is compounded with the agent nominal in (8b), i.e., **[ketāb [foruš-ande]]**. There are no phonological restrictions, say syllabification, or prosodic restriction, for the derivation of (9b-i), since other CPs may form agent nominals with the suffix **-ande**, e.g. **harekat=kon-ande** "mover", **nejāt-dah-ande** "saviour".

The agent nominal corresponding to the complex head **ketāb=foruš-** (V), (9b-ii), is derived through zero derivation. The complex agent nominal **ketāb=foruš** "book-seller" (9b-ii) functions as

the stem for the plural forms in (9b-iii, iv). The plural form of the verbal stem is impossible by itself, e.g. **foruš-ān* and **foruš-hā* indicating that it is the complex agent nominal that is the base of pluralization⁴.

These observations indicate that the complex head *ketāb=foruš-* (V) is an independent X^0 head formed through conflation, and has its own independent morphological and syntactic properties. There are many complex verbal roots like *ketāb=foruš-* (V) with the simple verb *foruxt-an* "sell" in MF, e.g. *sabzi=foruš-* "vegetable=sell", *yax=foruš-* "ice=sell", *māhi=foruš-* "fish=sell", *pārče=foruš-* "cloth=sell", *talā=foruš-* "gold=sell", *'āhan=foruš-* "iron=sell" (to mention a few) which all show properties and derivations as in (9) above.

In sum, full transitive verbs may also form CPs with their weak objects just like the CPs formed with LVs in chapters 2-4. Most such objects are realized as bare common nouns, and integrate into the verbal predicate of the clause, within V-bar, through predicate modification. However, a weak object does not substantiate the thematic verb, rather it causes the aspectual/lexical type of the verb to be backgrounded and reduced.

At LRS, the bare weak object conflates into the head of the governing head forming a complex X^0 verbal head, and a *syntactic word*. Some lexical, thematic verbs which belong to this group are *nevešt-an* "to write", *xarid-an* "to buy", *xānd-an* "to read", *paziroft-an* "to receive, to

⁴The suffix -i is also added to the infinitive forms of verbs (simple or compound) to form deverbal nouns which refer to the direct internal argument (object) of the verb and indicates the "worthiness", "suitability", or "possibility" of the action of the verb to be done on the object". Thus, *did-an* "to see", *raft-an* "to go" (unaccusative), *pardāxt=kard-an* "to pay", and *darmān=kard-an* "to cure" become *did-an-i* "worthy to see", *raft-an-i* "worthy to go", and *pardāxt=kard-an-i* "possible/worthy to pay", *darmān=kard-an-i* "possible to cure". Now from the simple verb *foruxt-an* we can have *foruxt-an-i* "worthy/possible to sell", but not **ketāb=foruxt-an-i* since the object of the simple verb is satisfied within the compound, making an intransitive verb, which makes it impossible for the suffix -i to refer to the object of the verb. This observation seems to show the sensitivity of the -i to the argument structure of the base to which it is added, and indicates that affixations apply to the complex verbal heads in MF.

accept", *did-an* "to see", *sāxt-an* "to build", and *dād-an* "to give". The last two verbs were also listed as LVs in (6) in chapter 2.

Given that the degree of separability and independence of the PVs and the full verbs are more than the CPs with LVs at s-syntax, the results in this section once more indicate that CPs cannot be considered as complex heads initially originated at the LRS or morphological structure, and then inserted at s-syntax or after spell-out. Rather, morphological derivation of CPs in MF follows their syntactic derivation, as phrasal CPs, at the computational component. This clearly envisages a grammatical theory that allows morphological formations to take place parallel to and/or after syntactic derivation.

The next section addresses passive structures in MF. I argue that passives are also cases of CPs where the past participle of the transitive thematic verb functions as the PV of the unaccusative LV *šod-an* "to become", known as the auxiliary of passive in MF.

5.2 Passive Structures in MF: Cases of CPs

Moyne (1974: 249) rightly states that "in the pedagogical grammars of Persian it is normally said that the passive is formed with the auxiliary verb *šod-an* 'to become' and the past participle of the main verb." However, as Barjasteh (1983) states, a passive sentence like (10a) is awkward:

- 10.a 'Ali tavasote hasan košt-e šod-ø Barjasteh (1983: 269, his (5-34))
 Ali by Hasan killed-ppr became-3S
 Ali was killed by Hasan.

Use of an agent *by*-phrase is simply awkward and the passive is normally agentless in MF (Moyne 1974: 252; & Moyne 1970). The natural, normal way to state (10a) is in active, as in (10b):

10.b	Hasan	Ali	rā	košt	
	Hasan	Ali	RA	kill.ps.3S	"Hasan killed Ali."

Quoting from Phillott's grammar (1919), Moyne (1974: 249) adds that "The Passive Voice is much less used [in Persian] than in English. The general rule is not to use it, if it can be avoided; in other words, the passive is used only for some special significance, ...".

However, Moyne (1970, 1974) denies the existence of lexical or syntactic passives in MF. He claims that the opposition like *Mary saw John* and *John was seen by Mary* in English does not exist in MF and "more specifically, that the so-called passives in Persian do not have a concrete agent in their underlying structures" (Moyne 1974: 250), and a specified agent in the "so-called passives" in MF has an "instrumental sense". Moyne (1974: 253-254, & ft. 4) compares the structure of "pseudopassives" with *šod-an* with the structure of "pseudocompounds" in MF (like 'āšoft-e=kard-an "to make agitated" as explicated in (Moyne 1970) and provides an identical "complex syntactic structure" and analysis for both³.

On the other hand, Dabir-Moghaddam (1982a, 1982b, 1985) and Barjasteh (1983) argue for the existence of periphrastic passive structures in MF, with *šod-an* as the auxiliary of the passive. In the case of CPs formed with *kard-an*, in particular, these linguists claim the PV+ *kard-* is first passivized by the regular rules of periphrastic passivization giving PV+*kard-e+šod-*. The past

³Moyne (1970) divides the compound verbs in MF into three groups of "true compounds" like *māč=kard-an* "to kiss", *zamin=xord-an* "to fall" that have a "complex verbal structure in the lexicon"; "pseudocompounds" like 'āšoft-e=kard-an "to make agitated", *pardāxt=kard-an* "to pay", *juš=āmad-an* "to come to boiling, to boil" that enter into a "complex syntactic structure" (.....); and "verb phrases" like *qazā=xord-an* "to food-eat", and *ketāb=foruxt-an* "to sell-books", etc., based on separability of the PVs from the verbs and the possibility of the nominal PVs being a specific DO followed by *rā*. We had a short review of Moyne (1970) in chapter 1, and classified all his three types of compounds as cases of complex predicates. My analysis of the structure of CPs in MF is close to the complex syntactic analysis proposed by Moyne (1970) and Moyne (1974:254, No. (11-12)) for his "pseudocompounds" in that I have suggested a "complex" syntactic analysis for all types of CPs both in s-syntax and in l-syntax (LRS).

participle of **kard-an**, i.e., **kard-e**, is then deleted through a process of historical past-participle (or **kard-e**) deletion giving **PV+Ø+šod-**. Notice (11) from Dabir-Moghaddam (1982b):

- 11.a Nasrin panjere rā bāz kard- ø (his (31a))
 Nasrin window RA open make.ps.3S
 Nasrin opened the window.
- .b panjere (tavassot-E Nasrin) bāz kard-e šod-ø (his (31d))
 window (by Nasrin) open made.ppr become.ps.3S
 The window was opened (by Nasrin).
- .c panjere (tavassot-E Nasrin) bāz Ø šod-ø (his (31c))
 window (by Nasrin) open become.ps.3S
 The window opened (by Nasrin).

(11a) corresponds to CPs formed with an adjectival small clause and the causative **kard-an** in chapter 4, § 4.3. According to Dabir-Moghaddam, (11b) is the passive of (11a), formed from the past participle (underlined) of the active compound verb in (11a) and the passive auxiliary **šod-an**. The past participle **kard-e** in (11b) is then deleted to give the normal surface form in (11c). (11c) is the surface passive of the underlying passive (11b) after **kard-e** deletion which produces "ambiguous/opaque" structures between an inchoative and a passive reading. However, the inchoative reading, (11d) below, despite the surface similarity with the passive reading, (11c), is not formed according to the process above, but is independently formed and available (see also Barjasteh 1983: 5-49, & 5-50).

- 11.d panjere (xod be xod) bāz šod-ø (his (31b))
 window (self to self) open become.ps.3S
 The window opened (gratuitously [by itself]).

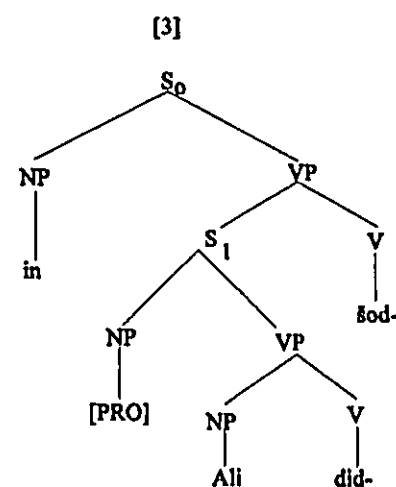
Thus we note that there are actually two independent structures with **šod-an** for these linguists: one that takes **šod-an** as a passive auxiliary and is derived through the deletion of the past participles (**kard-e** in particular) of the CPs that are formed with **kard-an** (11b-c); and one that

brought which is awkward in English.

However, Moyne (1970, 1974) also provides an insightful "complex syntactic structure" analysis for the formation of his "pseudopassives" which is identical to the analysis he gives for the formation of his "pseudocompounds" in MF (cf. ft. 3). [3] below is his proposed structure for the passive sentence in (13) formed from the verb **did-an** "to see".

13. 'Ali did-e šod
Ali seen.ppr become.ps.3S "Ali was seen."

According to Moyne (1974:258, his 23), in [3] **šod-** heads a main sentence, S_0 , with an abstract expletive element in "it" in subject position and an embedded sentence complement, S_1 , which is headed by the main full verb, **did-** "see". **Ali** counts as the object of **did-** "see". [PRO] is an abstract impersonal pronoun counting as the implied agent of the passive. [PRO] may be replaced with the agent (subject) of the embedded verb which may then be realized as a by-phrase like **bevasile-y-E** "by" or **tavassot-E** "by" e.g. **Ali be-vasile-y-E Hasan did-e šod** "Ali was seen by Hasan" (Moyne 1974: 258, ft. 9).

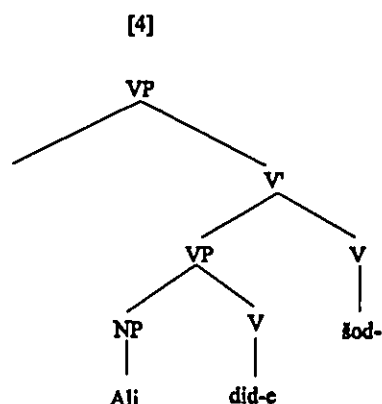


According to Moyne, to derive (13), first an object-preposing transformation raises **Ali** to subject position, and the embedded main verb **did-** changes into a past participle when it comes into contact with **šod-**. There are other transformations as well like [PRO] deletion which are irrelevant for us. It is interesting that he rightly claims that [3] is an inchoative rather than a passive structure and paraphrases (13) as *It came about that Ali became seen* or *It came about that PRO saw Ali*.

Our proposed LRS for the CP **pardāxt=šod-an** "to be paid", a "pseudo-compound" in Moyne

(1974, ft. 3), in § 4.1.1, diagrams [7] & [9], look very close to [3]. There is one difference. Instead of the embedded S_1 we have an embedded NP/XP as the internal complement (object) of the passive auxiliary or LV *šod-an*.

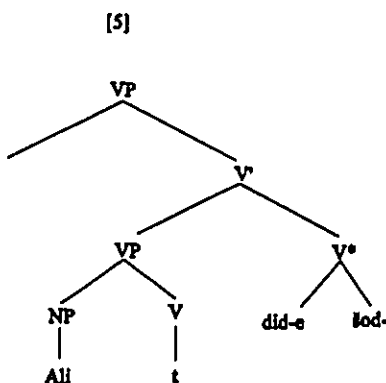
My suggested syntactic/LRS representation for *šod-an* in (13) is given in [4]. In my analysis *šod-an* is an externally caused unaccusative verb and belongs to the central subevent of causative/ergative alternation verbs or LCSs (cf. chapter 4, § 4.1.1). It takes the past participle form of the verb, *did-e* "seen" in (13), as its direct internal argument (object), or the PV/XP as in [4]. The rest of the analysis follows as before.



The past participle *did-e* "seen" belongs to the *universal category verbs* (cf. H&K 1994, chap 3). *Did-e* selects a complement but no subject, or Spec position. Thus, we reject the existence of an abstract subject [PRO] for the embedded verb (past participle *did-e*) in [3]-[4] (at LRS).

Nor does the higher verb *šod-* project an Spec/subject position, so the assumption of an abstract expletive in "it" as the subject in [3] is also unnecessary.

In [4] the embedded VP complement of *šod-* corresponds to the VP embedded within S_1 in [3], i.e., the past participle *did-e* "seen". That is, the past participle counts as the object/ internal argument of the unaccusative LV *šod-* in [4]. The former does not head an S_1 contrary to [3]. Bashiri (1973: 126, No. 148) similarly argues that the past participle in passive structures in MF occupies the object position of the auxiliary *šod-* at deep-structure.



Now, the embedded past participle is in the proper structural position to conflate into the head of the governing verb *šod-* to form the complex unaccusative head **did-e=šod-**, an X^0 level *syntactic word* and *morphological object* (which may then form CP-INF **did-e=šod-an** "to be seen", and undergo other morphological processes that apply to X^0 level categories), as in [5]. The passive CP-INF **did-e=šod-an** indeed behaves like simple infinitives and may occupy the subject, DO, indirect object and other syntactic positions that other CP-INFs and simple verbal nouns and words occupy. The complex head in [5], V^* , functions as an unaccusative verbal head in that it has a sole internal argument (object), *Ali*, that functions as the subject of the finite passive clause in s-syntax as in (13), a desired result for an unaccusative verb.

The past participle of the passive CP in (10), i.e. **košt-e=šod-** "be killed", is **košt-e=šod-e** and as a complex synthetic adjective it may be pluralized as **košt-e=šod-e-g-ān** "the killed ones" and **košt-e=šod-e-hā** "the killed ones", like many simple adjectives in MF. On the other hand, even though the past participle of *šod-an*, i.e., *šod-e*, is a free item in MF, it cannot be pluralized, e.g. **šod-e-g-ān*, and **šod-e-hā*, indicating that the plural suffix is added to the complex verbal head in [5] after conflation. It is clear that these derivational processes may only apply to X^0 items at the morphological structure and/or LRS. On the other hand, unaccusative or passive structures like the ones under study in this section are clearly derived in the syntactic component. The morphological derivations can only be assumed to follow the syntactic derivation. The LCS of (13) is provided in (14) below:

- 14.a **šod-an**: [_{CAUSE} c [y *šod-*]]
 .b **šod-an**: [_{CAUSE} c [[x z *did-e*] *šod-*]
 .c **šod-an**: [_{CAUSE} c [[Hasan Ali *did-e*] *šod-*]

In (14a) *c* corresponds to the higher cause subevent *circumstance*, and *šod-* occupies the central subevent, and as an unaccusative verb, takes a single internal argument *y*. In (14b) *y* is replaced by *did-e* and its LCS where *x*, *Hasan* in (14c), is the external argument of *did-e* and *z*, *Ali* in (13) and (14c), is its object. Notice that *Hasan*, the external argument of *did-e*, is not projected in its LRS representation in [4]-[5] since members of the universal category *verb* are not predicates and do not project a specifier subject position at LRS. However, it is present at the LCS, and is embedded within the inchoative central subevent *šod-an*. As such it may only project as an optional *by*-phrase or argument-adjunct⁶.

The s-syntax configuration for the passive sentence (13) is identical and isomorphic to [4]. The past participle *did-e* as a non-argument, predicative XP occurs within the V-bar of the LV *šod-an* and substantiates it. The two form a *generalized lexical integer*, or phrasal CP. The internal argument, *Ali*, functions as the subject of the CP, the desired result for both passives and unaccusatives. The *x* external argument being embedded within the central subevent of the LCS (14) may only be realized as a *by*-phrase, thus giving the agentive reading of the passive in (13). Moyne is right in calling them *inchoative constructions* and *so-called passives*. I call them *inchoative passive*. However, I am totally on Moyne's side in that these are inchoative constructions. There are no other independent passive structures in MF.

⁶We differ from Grimshaw (1990) and Levin & Rappaport (L&R) (1995) who suggest that the external argument of the passive is represented in argument structure (our LRS) but is suppressed and can only be realized as an optional *by*-phrase, called argument-adjunct. Notice that showing the external argument of *did-an* "see", i.e., *Hasan*, in Spec of the lower VP in [5], would violate the basic definition of the complex head after conflation, *V**, as an unaccusative verbal head since there would be an external argument as well as an internal argument, *Ali*, as part of its argument structure. The lack of *x* external argument in passives and unaccusatives is independently motivated in our theory and is suggested to be a property of the *universal category verbs* at LRS.

5.3 Ergative Alternation Verbs and the so-called Passive

In this section, we will study ergative/causative alternation verbs like *šekast-an* "to break" and *rixt-an* "to pour" in MF and their passive forms. I argue that the external argument in passives like (13-14) may be expressed as an optional by-phrase since it is present and embedded within the central subevent in the LCS. In the intransitive ergative verbs the by-phrase may not be expressed since there is no external argument within the central subevent in the LCS. This counts for the agent reading we feel in passives but lack of agent in intransitive ergatives.

Šekast-an "to break" and *rixt-an* "to pour" are two ergative alternation verbs that have a corresponding passive forms with *šod-an*. (15-16) are examples with *šekast-an*:

- 15.a *Mina* *goldān* *rā* *šekast*
 Mina *pot* *RA* *breake.ps.3S*
 Mina broke the pot.
- .b *goldān* (**tavassote Mina*) *šekast*
 pot (*by Mina*) *breake.ps.3S*
 *The pot broke (*by Mina).*
16. *goldān* (*tavassot Mina*) *šekast-e* *šod*
 pot (*by Mina*) *broken-ppr* *become.ps.3S*
 The pot was broken (by Mina).

Part of the lexical properties of these verbs were also discussed in chapter 4, § 4.1.1. The LCSs of *break* in (17) & (18) correspond to LCSs (15) & (18) in chapter 4.

17. *break*-(in)transitive: [[*x* DO something] CAUSE [*y* BECOME BROKEN]] (15, chap 4)

18. *break*: [*c* [*y*, taut or rigid entity, develop separation in material integrity]] (18, chap 4)

I argued that *break* (transitive or intransitive) counts as an externally caused event and is inherently dyadic and causative as shown in (17-18). As discussed in chapter 4, the unrestricted variable *c* stands for *circumstance* in (18) and corresponds to the causative subevent, *x do something* in (17), and

in nature. Both analyses can thus account for the impossibility of the *by*-phrase, and the lack of an agent reading in intransitive, ergative verb in (15b).

Grimshaw (1990: 108-124) argues that passivization and nominalization suppress the external argument of the base verb at the level of argument structure, contrary to (19) above. The external argument of the passive *broken* in (16) is projected from the LCS to argument structure but is suppressed at that level. Hence it can only be associated with an implicit, argument-adjunct *by*-phrase as in (20) below. It is not available for theta-marking.

20. šekast-e "broken": [[x DO something] CAUSE [y BECOME BROKEN]]
Linking Rule ↓ ↓
Argument structure <x-Ø> <y>

L&R (1995: 108-109) seem to have accepted this difference between (19) & (20) in order to account for the possibility of the occurrence of an agent *by*-phrase and control of purpose clauses with passives (16) & (20) versus impossibility of *by*-phrases in intransitive *šekast-an* "to break" (15b) & (19).

In our theory, on the other hand, there is no operation of suppression of the external argument at the level of argument structure or LCS. The passive participle *šekast-e* "broken" in (16) belongs to the universal category *verb*. It has a LCS like (17-18). In the passive verb *šekast-e šod-* "was broken" in (16), the past participle *šekast-e* functions as the subcategorized internal argument (object) of the unaccusative LV *šod-an*. The LCS of *šekast-e* (17-18) is embedded within the inchoative subevent *šod-* just like (14), as in (21) below:

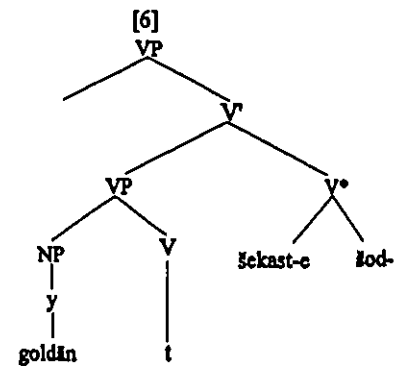
21. **šekast-e šod-:**[c [[x DO something] CAUSE [y BECOME šekast-e BROKEN]] šod-]]
 Linking Rule
 Argument structure

The external argument in causative alternation verbs belongs to the higher causative subevent

(Grimshaw 1990; L&R 1995; chap 4). X in (21) is embedded within *šod-an* hence cannot count as an external argument. On the other hand, in the embedded subevent it is, in fact, located in the higher causative subevent and hence is absent from the LRS representation. The only possible function for it would be to act as an argument-adjunct *by*-phrase as in (16) that accounts for the possibility of the agentive *by*-phrase and control L&R (1995) talk about. The object of the passive *šekast-e*, i.e., *y goldān* "pot", is present in the argument structure and function as subject in (16).

In [6], I give the LRS for the passive sentence in (16) (for the LRS structure of (15a-b) see [8] in chapter 4, § 4.1.1). In [6] *šekast-e* occupies the head of the internal argument (object) of the LV *šod-* and conflates into the verb to form the complex unaccusative head V*, *šekast-e=šod-* "was broken". This complex head has the same properties that we noticed for other CPs.

Comparing the LRS of the simple ergative verb *šekast-* "broke" in (15b), [8] in chapter 4, with the passive *šekast-e=šod-* "was broken" (16), [6], we note that the only difference between the two is that the latter is derived through conflation and forms a complex unaccusative head, V*, while the former is a simple unaccusative head. Both have a direct internal argument in their LRS that is realized as the subject, *goldān* "pot" in (15b) and (16).



The difference between (15b) and (16) is realized at LCS representations (18-19) vs. (21) respectively. In the simple ergative verb (15b), the higher causative subevent may be unspecified and filled with c, and the ergative verb is directly associated with the central subevent of the LCSs (18-19) that lacks an x external argument. The passive verb in (16) is also directly associated with the central

subevent in the LCS (21). But notice that the entire LCS of the simple ergative *šekast-*, (17-19), is embedded within the inchoative central subevent in (21). The *x* external argument is a part of the central subevent in (21). Therefore, the agent reading is implied and is realized as the *by*-phrase in (16)⁷.

At s-syntax, the past participle *šekast-e* occurs as a PV within V-bar and substantiates the LV *šod-an* in (16). The two form a phrasal CP, (16), corresponding to the simple predicate in (15b).

5.4 Complex Predicates & Inchoative Passive: a Comparison

Before bringing this chapter to the end, let me study the following pairs as well:

22.a	pardāxt-an	to pay	
.b	pardāxt-e=šod-an	paid-ppr=become-INF	to be paid
23.a	pardāxt=kard-an	payment(N)=do-INF	to pay
.b	pardāxt=šod-an	to be paid	

In (22a) we have a simple transitive verb and (22b) is its inchoative passivized CP-INF formed from the past participle of (22a) and *šod-an*. In (23a) the nominalization of the simple verb in (22a), i.e., *pardāxt* (N) "payment", is used as a PV to form the transitive CP *pardāxt=kard-an*. (23b) is the unaccusative alternant of (23a) formed with the same nominal PV and *šod-an*. (22) and (23) are very much synonymous and may be used interchangeably, except that the simple forms in (22) sound more literal and formal while the CPs in (23) are more frequent and colloquial. My goal here is to compare the inchoative passive CP (22b) with the unaccusative CP in (23b). I show that they have identical

⁷This analysis is correct for the English glosses in (15b) and (16) as well. As far as the English passive in (16) is concerned, I assume that the passive *broken* (and its LCS) is embedded as the direct internal argument of the stative (passive) auxiliary *be* similar to (21). The passive verb *was broken* in (16) has a LRS similar to [6], and a LCS like (21), except that the main verb is *be* rather than *šod-an*. This then accounts for the stative reading of the English passive and inchoative reading of passives in MF. The idea dates back to the ideas of generative semanticists (see Siewierska 1984 for a review).

LCSs, LRSs and s-syntax configurations and differ in non-linguistic and pragmatic factors. The unaccusative CP (23b) was analyzed under (9) in chapter 4, § 4.1.1, repeated as (24) below:

24. pul (tavassote Amir) be Morad **pardāxt=šod**. ((9) in chap 4)
 money by Amir to Morad payment=became.3S
 The money was paid to Morad (by Amir).

However, the unaccusative CP in (24) can be replaced with the inchoative passive CP in (22b), as in (25):

25. pul (tavassote Amir) be Morad **pardāxt-e=šod**.
 money by Amir to Morad pay-ppr=became.3S
 The money was paid to Morad (by Amir).

As discussed above, passives are not frequent in MF, and the CP in (24) is much more frequent and colloquial than the passive in (25), and blocks the passive CP in (25). Yet the latter is absolutely fine and acceptable. I refer the reader to chapter 4, (20-21-22) for the LCS and [9] for the LRS of the CP in (24). The LCS of the passive CP in (25) is provided in (26) (totally identical to (20) in chap 4):

26. [c [[x [y P z] PARDĀXT-e] šod-]] (cf. (20) in chap 4)

In (26) c stands for the external causative subevent and may be replaced with *x do something* or with the LCS of the active simple verb **pardāxt-an** (22a)(underlined), as in (27) :

27. [x [y P z] PARDĀXT- [[x [y P z] PARDĀXT-e] šod-]] (cf. (22) in chap 4)

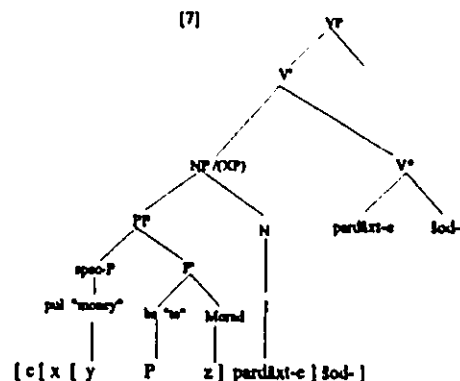
28. [x [y Pz] PARDĀXT kard- [[x [y Pz] PARDĀXT] šod-]] ((22) in chap 4)

Comparing (27) with the LCS of (24), ((22) in chapter 4, repeated as (28) above), we notice that they are completely identical. (27) and (28) mean that as a result of *x paying y to z*, *y comes to be paid to z by x*. In (27) and (28) the past participle and/or the nominal PV occur as the direct internal argument (object) of **šod-an** and their LCSs are embedded within the central inchoative subevent just like the passive CP in (21) above. While the higher causative subevent in (27), or c, is replaced by the

LCS of the simple verb (22a), this position in the LCS (28) is filled with the LCS of the CP in (23a).

The LRS of the inchoative passive CP **pardāxt-e=šod-** in (25) is identical to the LRS of the unaccusative CP **pardāxt=šod-** in (24). The LRS of the latter was analyzed under [9] in chapter 4. The LRS [7] is associated with the inchoative passive (25) and is identical with [9] in chapter 4, (also compare with the LRS of the passive CP in [6]).

The past participle, **pardāxt-e**, occupies the object position of the unaccusative LV **šod-** and conflates into it to form the complex head, **V***, **pardāxt-e=šod-**. All the arguments of the past participle now count as the arguments of the complex head and are embedded within it, and need not be visible at this level. This complex head is



equivalent and identical to the complex head of the unaccusative CP in (24), i.e., **pardāxt=šod-** which is also derived through conflation like [7] (see [9] in chapter 4.)

The complex head now can be nominalized as the passive CP-INF **pardāxt-e=šod-an** "to be paid", and act as a simple lexical noun, i.e., as subject, DO, IO, etc. However, its use in normal speech is blocked because of the presence of the unaccusative CP in (24) & (23b). Since both the unaccusative CP in (24) and the passive CP in (25) contain an x external argument embedded within the inchoative **šod-** in their LCSs (27)-(28), they both imply an agentive reading that is realized as the *by*-phrases in (24)-(25).

Notice that the theory assigns identical LCSs and LRSs to the simple verb **pardāxt-(an)** "to pay" (22a), its nominalization **pardāxt** (N) "payment" (23), and its past participle **pardāxt-e** "paid" (22b), since they are all members of the *universal category verb*. They all lack an x external argument

at the level of argument structure, LRS. There is no need to suppress the external argument for the nominalization and passive (Grimshaw 1990) since the external argument is not there. Their categorial labels as verb, noun, or passive (Adj) and/or their surface morphological and phonological distinctions can account for their differences in distribution at s-syntax derivation.

Both the nominal **pardāxt** (N) "payment" (24), and the participle **pardāxt-e** (ppr) "paid" (25) form phrasal CPs within V-bar with the LV **šod-** leading to the unaccusative CP (24) and the inchoative passive CP (25). The simple transitive verb **pardāxt-(an)**, (22a), does not have an intransitive ergative counterpart, as *break* does. The unaccusative CP formed with its nominalization and the LV **šod-**, (22b, 24), counts as the intransitive, ergative counterpart and as the central subevent of an inherently dyadic causative/transitive LCS. **Šod-an** may either have a specified or an unspecified higher causative subevent.

If the higher subevent, *c*, is specified, the external cause may be a transitive CP with **kard-an**, chapter 4 and (23a) above; or *c* may be any of the simple, full thematic transitive verbs described in § 5.1, 5.2, and (22a). In this latter case, **šod-an** forms structures that are traditionally called passives in MF. Thus, complex verbal structures/CPs with **šod-an** may be associated either with structures/CPs with **kard-an**, or with simple full transitive verbs (22a). In both **šod-an** counts as the central subevent of a causative/transitive LCS or ergative alternation.

The higher subevent may also be unspecified and simply implied as *c* for *circumstance*. These are cases where a surface causative alternant that brings about the event denoted by **šod-an** is not available. Even here **šod-an** behaves as an externally caused eventuality and has an implicit *c*. In either case **šod-** is a LV and must be substantiated at s-syntax, which leads to the formation of a phrasal CP, and a conflated complex head at LRS (in most cases).

5.4 Conclusion

This chapter dealt with the CPs formed with the transitive full, or thematic verbs as well as with the passive structures in MF. I argued that the verbs that are standardly called full, thematic verbs may also form phrasal CPs with their weak, and non-specific objects. In this use, the weak DOs function as non-arguments, and do not need to receive theta-roles, since theta role is assigned to real arguments only. Such DOs must stay within V-bar, cannot scramble freely, convey an existential reading, and act as part of the main predicate of the clause, i.e., a semantic and syntactic configuration reminiscent of DE. In this syntactic and semantic configuration, the aspectual type/adicity of the full transitive verb tends to be affected and the verb seems to be very low in the transitivity scale. So that the verb actually changes from a two place telic transitive verb to a one place atelic intransitive verb and aspectually behaves like such verbs. Following Zsabolsci (1984, 1986) and Hopper & Thompson (1980) I called this *backgrounding* of the semantic substance of the verb. Occurrence within V-bar and formation of a generalized lexical integer within V-bar at s-syntax is paralleled with an isomorphic level of l-syntax LRS representation and conflation resulting in a CP with the properties of *morphological objects*.

Stative passive structures were argued to be non-existent in MF. What we have are inchoative passive structures with *šod-an*. I argued that constructions with *šod-an* alternate with simple transitive verbs (discussed above), and transitive CPs with *kard-an* and count as the central subevent of a causative (or externally caused) LCS. Or the external cause in *šod-an* constructions might be unspecified. I argued that the past participle of a transitive verb functions as the direct complement/object of *šod-an* and substantiates it within V-bar in s-syntax, and a corresponding conflated complex head, CP, may be formed at the level of LRS. In the final section, a simple ergative

alternation verb was compared with ergative alternation CPs with **kard-an** and **šod-an**. Given that inchoative passive structures are phenomena directly associated with the computational syntactic derivation, it was concluded that conflation at LRS and/or morphological structure may follow the syntactic derivation.

Chapter VI

CPs Formed with the Hamkards *Zad-an* "beat" & *Xord-an* "collide"

6.0 Introduction

This chapter addresses CPs with the transitive/causative hamkards *zad-an* "to beat, to hit", *dād-an* "to give" as far as it alternates with *xord-an*, and their inchoative/unaccusative equivalents with *xord-an* "to collide". I will divide these CPs into three separate subgroups depending on the aspectual properties of these hamkards and the resulting CPs, and depending on whether an inchoative/unaccusative CP with *xord-an* is possible or not. The PVs in CPs with *zad-an* and *xord-an* are normally common and instrumental nouns. I will concentrate on the particular aspectual and lexical semantic properties of these three hamkards and the resulting CPs.

In § 6.1, I will study the lexical properties of *zad-an* as a transitive verb of contact and compare it with the *spray/load* verbs in English that show locative alternation due to presence of a subordinate BY MEANS OF clause in their LCSs. I will show that the (possibility of) presence of BY MEANS OF clause in the LCS of *zad-an* leads to an extended or backgrounded meaning for it and to formation of CPs with *zad-an*. In § 6.2, I study the lexical properties of *xord-an* as an inchoative verb of impact and show that the CPs with *zad-an* and *xord-an* are related to each other in that the CPs with the latter count as the unaccusative of the CPs with the former, and the two types of CPs exhibit causative alternations. In §6.3 I will sketch a common LCS for the CPs formed with these two hamkards consisting of a causative subevent (=zad-an) and an inchoative central subevent (=xord-an) and a BY MEANS OF subordinate clause. In § 6.4, I will provide the LRS representation for CPs with these two LVs. Some variations in CPs with these two LVs are studied in § 6.4.1. The variation is attributed to the aspectual properties of the LVs and the PVs. Section 6.5 addresses causative

alternations between the hamkard **dād-an** and **xord-an**. I will suggest that the choice of the proper hamkards seems to be influenced by their aspectual properties and a close analysis similar to sections 6.3 & 6.4 will be provided. In § 6.6, I will study another set of CPs with the hamkard **zad-an** (as a simple transitive verb) which do not display causative alternation. I will argue that these CPs with **zad-an** correspond to both *internally caused* and *externally caused* verbs of emission as discussed in Levin & Rappaport (1994, 1995). § 6.7 provides a short conclusion.

6.1 CPs Formed with the Transitive Hamkard *Zad-an* & Locative Alternation Verbs

Zad-an literally means "to hit, to beat". It is a transitive verb as shown in (1-3):

1. man Ali rā zad-am
 I Ali RA beat.ps-1S "I beat Ali."
2. man Ali rā bā čub zad-am
 I Ali RA with a stick beat.ps-1S "I beat Ali with a stick."
3. man Ali rā čub zad-am
 I Ali RA stick beat.ps-1S "I punished Ali."

(1) shows the simple transitive use of **zad-an**. In (2) an optional instrumental PP is used indicating the instrument/means used for hitting/beating. In (3) the instrumental complement of the preposition in (2) has formed a CP with **zad-an**, with a new but close meaning to (2), i.e., **čub= zad-an** "to punish", rather than "beating with a stick". The phrasal CP in (3) exhibits the syntactic property of separability as in (4):

4. man Ali rā yek [čub-e hesābi] zad-am
 I Ali-RA one stick-EZ real beat.ps-1S
 I gave Ali a good beating. I punished Ali thoroughly.

The syntactic relationships between the DO and PP in examples (2-3) seem to look similar,

if not identical, to the type of relationships in the Locative Alternation verbs (*SPRAY/LOAD* verbs) in (5-6) from Rappaport & Levin (R&L) (1988, their (23)):

- 5. Henry loaded hay onto the wagon (locative variant)
- 6. Henry loaded the wagon with hay (with variant)

R&L (1988) name the *with variant*, (6), the "displaced theme variant" in that the complement of the *with*-phrase, *hay*, qualifies as theme of change of location (Gruber 1967; Jackendoff's 1972, 1983). R&L argue that the verb in the *with variant* (6) is a verb of *change of state* and indicates a change in the state of the DO, *wagon*, caused by Henry manipulating or changing the location of the locatum (=theme of change of location), *hay*. That is, the primary semantic reading of DO, *wagon* in (6), is an affected theme. *Wagon* in (6) has a secondary goal interpretation as well, but the goal reading of *wagon* is subsidiary to its primary reading as a theme of change state or affected theme. On the other hand, the verb in the *locative variant* (5) denotes a simple change of location just like *put*, and according to R&L (5) has a LCS similar to such verbs, *put*. *Wagon* in (5) is the goal of change of location and is not affected.

Now notice (7) also from R&L (1988 (their 29))

- 7. I broke the window with a hammer.

In (7) the *hammer* is the *instrument (theme)* and is expressed with the preposition *with* similar to the *displaced theme*, *hay* in (6). There is another similarity between the *displaced theme* in (6), and the *instrument (theme)* in (7) in that they are both manipulated by the subject and count as themes of change of location in order to bring about a change of state in the DO. Both verbs in (6) & (7) behave as verbs of change of state brought about by some type of manipulation/change of location of the displaced theme in (6) or the instrumental adjunct in (7). R&L (1988) try to track down this similarity

verb in (2), i.e., *the action of beating with stick*, which could be because of a personal fight, is now used in the new and extended sense of *punishing* the DO, Ali, i.e. a direct *change-of-state* verb brought about by the MEANS relation.

Recall that the *bleached predicates of existence* (chapters 2-3; Szabolsci 1984, 1986) involved the non-logical substance of bringing about or CAUSing a CHANGE in the STATE, EXISTence, AVAILability, etc. The primary function of **zad-an** as a simple physical activity verb is extended (perhaps reduced) and backgrounded in (3). It is now a bleached/backgrounded existential predicate denoting a CHANGE in the STATE of its complement and is only compatible with a weak PV/XP as its VP-internal object within V-bar. The instrument nominal **čub** "stick", being lexically of the semantic type predicate <e,t>, qualifies as such a weak, non-specific NP, and forms a phrasal CP within V-bar with **zad-an**.

In (3), and in many of the CPs formed with **zad-an** (and CPs with its inchoative alternant **xord-an**), the nominal PV indeed qualifies as an instrument (theme) somehow manipulated, handled by an agent or subject to bring about a change of state upon a direct object or theme of state. That is, the instrumental PP in (2) is related to the instrument nominal PVs in (3) just as (5) is related to (6). The action of manipulating the instrument noun within the PP in (2) is more concrete while in the CP (3) it is more abstract just as in (5) vs (6). In other words, our CP in (3) is equivalent to the *with* variant (6) rather than (5) since in (3) & (6) the main verbs are used in an extended sense.

However, it is worth adding that in MF the instrumental PP-constructions with **zad-an** (and **xord-an**) like (2) are very rare. (2) is an exception. Only the corresponding CPs with an instrumental noun and the LVs, like (3), are available. I propose an abstract empty preposition in these cases below. I will show that the LCSs of (2-3) are very similar to the LCSs (8-9) respectively. However,

before doing so, I would like to study the inchoative, unaccusative CP alternants of (3) with **xord-an** "to collide", as this will facilitate the presentation of the analysis.

6.2 Inchoative CPs With *Xord-an* "to collide"

Jackendoff (1990:106) divides verbs of *touching* (in English) into three types: (1) Pure contact verbs like *touch, contact*; (2) Impact verbs like *hit, strike*; and (3) Moving contact verbs like *stroke, scratch*. The group we are interested in is the second one, i.e., *verbs of impact* which express inchoative events. The conceptual structure he proposes for a sentence like (10) is given in (11):

10. The ball hit the wall.

11. $[_{\text{Event}} \text{INCH } [_{\text{State}} \text{BE}_c ([_i [_{\text{place}} \text{At}_c []]])]$ (his (19b))

He defines the inchoative event verb *hit* as "motion of the theme culminating in contact with the reference object". **Xord-an** "to hit, to collide" functions as the inchoative alternant of CPs formed with the transitive *hamkard zad-an*. (12b) is the MF equivalent of English (10) where the DO, *the wall*, may only be expressed as an obligatory PP, *be divār* "to wall".

- 12.a Ali **xord** be divār
 Ali collide.ps.3S to wall "Ali hit the wall."
- .b tup **xord** be divār
 ball collided to wall "The ball hit the wall."
- .c movāzeb bāšid ke boxār be dast-e šomā na-xorad
 careful be-SUJ.3S that steam to hand-EZ you neg-collide
 Be careful that the steam do not touch your hand.

Xord-an in (12a-c) is used as a simple intransitive inchoative verb just like the English equivalent *hit* in (10) and not as a LV/*hamkard*. **Ali** in (12a), **tup** "ball" in (12b), and **boxār** "steam" in (12c) conform to the definition of the "theme culminating in contact with the reference object" (Jackendoff

1990). In fact, the MF data more directly exemplify the conceptual structure (11) in that the place concept shown by AT in (11) corresponds to a PP of location/goal in MF while it corresponds to an NP (DO) in English. However, neither the themes nor the NP objects of the PPs in (12) form a CP with **xord-an**.

While the verb **xord-an** in (12a) seems to be an independent activity controlled by the animate subject, **Ali**, the inanimate subject in (12b), **tup** "ball", cannot be the controller of the action culminating to the contact of the *ball* with the *wall* (the same is true for (12c) as well). Rather an external controller is implied. Even for (12a) an external controller/cause is conceivable and can be brought about as in (13).

- 13.a man Ali rā mohkam **zad-am** be divār
 I Ali-RA strongly hit-1S to wall
 I hit Ali against/to the wall very hard.
- .b man tup rā mohkam **zad-am** be divār
 I ball-RA strongly hit-1S to wall
 I hit the ball to the wall very hard.

However, an external controller is not easily available for (12c), rather the external control seems to be a natural force. The examples in (13) exhibit the causative/inchoative alternation between **zad-an** and **xord-an** (12). On this account the verb **xord-an** can also be classified as a verb of change of location with a specified direction. Notice that the goal PPs in (12) are obligatory.

L&R (1994) classify such verbs as verbs of "directed change" of location, but Smith (1970) calls them verbs of "change" class which include both verbs of change of state and verbs of motion. Smith identifies the features "independence" and "external control" to characterize these verbs (cf. chapter 4). Thus, the feature "independence" accounts for the intransitive, independent occurrence of the verb *hit* in (14a). The change in (14a) can come about independently "in the sense that it can

occur without an external agent" (Smith (1970: 102). The feature "external control" accounts for the implied external cause of the action in (14a) and the transitive/causative use of *hit* in (14b) (Smith 1970:101):

14.a The ball hit the wall. (=10)

.b I hit the ball against/to the wall.

Recall that following L&R (1994) we subsumed the two notions under the term *externally caused* verbs. The equivalent of (14a) is expressed with the verb **xord-an** (12b), and the equivalent of (14b) with the verb **zad-an** in MF (13b). The analysis of **xord-an** as a verb belonging to the *directed change class*, which also qualifies as the *impact* subgroup of *contact* verbs (cf. Jackendoff 1990; Laughren 1988) indicates that the subjects in MF examples in (12) count as the entities that undergo a change of location directed towards a goal expressed by the (obligatory) PPs. The same subject functions as the DO in the causative CPs with **zad-an** in (13a-b) with the same semantic interpretation as in (12).

The LCS of **xord-an** "to collide" as a verb of impact seems to be similar to the lexical structure of the inchoative *hit* in (11) from Jackendoff, with the difference that it must contain an external cause subevent, illustrated by *c* for circumstance (chapter 4). (15-17) represent the LCS for (14=10) and (12b).

15. [Cause c [Event INCH [State BE_c ([]_i, [Place AT_c []_j)]]]]] (cf. (11))

16. [c [xord- "hit" [BE ([y], [AT [z]])]]]

17. [c [xord- "hit" [BE_c ([tup "ball" AT_c [divār "wall"])]]]]

The verb **xord-an** in (12b) (also (12a & 12c)) and its English equivalent *hit* in (10) are shown by an INCHoative function as the main predicates of a central subevent in (15-17). They do not take

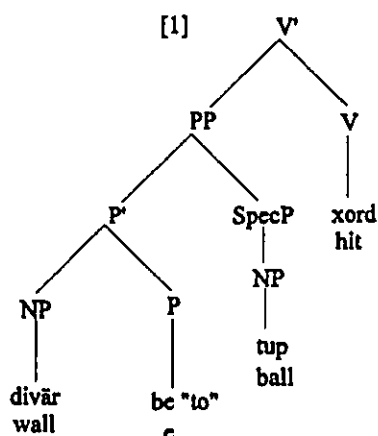
an external argument, but they do take a sole internal argument shown by the stative predicate BE, a desired result for inchoative, ergative verbs. The embedded predicates in (15-17) indicate a sudden change to a STATE. The STATE function/predicate in (15-17) has two arguments: (1) the *y* or the theme in motion, and (2) the place [AT_c *z*]. The PLACE is a function consisting of a preposition (which may be covert as in English (10=14) or overt as in MF (12)) and an NP complement showing the goal or point of contact. The theme shown by [*y*], i.e., *y* or *tup* "ball", comes to be in CONTACT with the argument of the PLACE function [*z*], i.e., *z* or *divār* "wall".

The abstract STATE function BE is semantically vacuous and empty. It has been appropriately shown with the subscript annotation *c* (for CONTACT) (Jackendoff 1990:109). The preposition function is also annotated with *c* (for CONTACT) by Jackendoff showing its identical behaviour with the STATE function BE in (15). Thus, the STATE and PLACE functions may be either abstract as in the English (10=14), or they may be realized as the head of a two-place interrelational preposition like MF (12a-c)¹.

In [1] I have shown the syntactic representation of (10) and (12b) where the higher V' corresponds to INCH function in (15-17) and is filled by *xord-an* or *hit*. As an unaccusative, ergative verb, it takes a sole internal PP complement. The NP at the Spec-P is the theme. The head of the PP is an abstract preposition which may or may not be filled, or be overt. The preposition has an NP complement. Thus the PP complement in [1] matches the STATE predicate BE in the LCSs (15-17).

¹In § 2 in chapter 3, I argued that prepositions are inherently interrelational, dyadic with a subject or Spec position and a complement NP, and the preposition itself relating or predicating the complement to the subject. The STATE complements in the LCSs (15-17) (shown with BE), (11) above) can be assimilated to a stative PP predicate with a subject, i.e., the theme *y*, and a complement, i.e., *z*, and the preposition itself functions as the head of this stative predicate. The preposition may be abstract and covert, in which case the complement will surface as an NP, the DO *wall* in (10) in English, or it may be overt as the PP *be divār* "to wall" in (12b), (it may also be covert in MF as well as we will see shortly).

The theme in (15-17), i.e., **tup "ball"**, in Spec-P in [1] raises to Spec-IP at s-syntax to function as the subject resulting in (10=14) and (12b). It also reflects the assumption that the subject of an unaccusative verb should count as an inner VP-internal complement.



To sum, **xord-an** "to collide" in MF (and the English *hit*) in its regular, lexical use is inchoative, unaccusative. It has

the LCS (15-17) and the LRS [1] which is a true reflex of the conceptual structure for the verbs of impact, *hit*, in (11). **Xord-an** functions as the intransitive, ergative alternant of transitive/causative **zad-an** (13a-b) (as well as **dād-an** "to give"). It counts as an externally caused eventualities and its LCS representation should contain a higher causative subevent and an embedded central inchoative subevent where **xord-an** counts as the main predicate². **Xord-an** selects a sole stative complement, and/or PP, and is itself dominated by a higher causative verb, i.e., **zad-an** or **dād-an** "to give".

6.3 A De-compositional LCS & the MEANS Subordinate Clause

We are now in a position to continue the analysis of the formation of CP with **zad-an** in (3) above and its inchoative CP alternant with **xord-an**. Let us study the following inchoative variants of the causative CPs with **zad-an** in (2-3) with the hamkard **xord-an**:

- 18.a *Ali bā/be čub xord (cf. (2))
 Ali with/to stick collide.ps.1S
 Ali was beaten with a stick/Ali collided with a stick.

²The alternation expressed by the externally caused verbs in the examples of MF in (12) and (13), (and (14)), are expressed by two different verbs, **xord-an** and **zad-an**, but with the same verb in English, i.e., *hit*, (and *burn*, *break*, *open*).

.b Ali **čub=xord** (cf. (3))
 Ali stick-collide.ps.1S "Ali was punished."

.c Ali *(tavasote man) yek čub-e hesābi xord (cf. (4))
 Ali by me one stick-EZ thorough strike.ps-3S
 Ali was punished severely.

The most salient meaning of **xord-an** in frequent daily use is "to eat (food)", a simple transitive verb, but it is also employed in an intransitive use, i. e., "to collide with/to strike with " (Tabaian 1979) as in (12) and the CPs in (18). The presence of the *by*-phrase adjunct in the parenthesis in (18c) is very odd and renders the sentence ungrammatical. **Ali**, in (18b), is the theme of state who is affected by the activity of "stick-beating" or by *punishment* (cf. also the CPs in (3-4)). **Ali** in (18b) has changed STATE from not being punished to come to be in a STATE of being punished.

Comparison of the subject, **Ali**, in the lexical use of **xord-an** as a verb of physical impact in (12a) (also the subjects in (12b-c)) with the subject, **Ali**, in the light use of **xord-an** in (18b-c) indicates that the semantic thematic role of **Ali** in (12a) is different from its semantic role in (18b-c). In (12a) **Ali** is the theme of change of location and the LCS (11, 15-17) properly characterize it as *y* moving to BE AT *z*. However, **Ali** in the light use of **xord-an** in the CPs in (18b-c) is not a theme of change of location, but rather **Ali** is the theme of change of state (as well as in the use of **zad-an** as the LV of the CPs in (3-4)). As a result the LCSs (11) and (15-17) which denote a change of location of the theme/subject for the physical impact verb **xord-an** in (12) cannot be appropriate for (18b-c) anymore.

It is not **Ali** who is the theme of motion in (18b-c), rather it is **čub** "stick" that seems to be the entity that is manipulated and brought into contact with **Ali**. This is verified from the use of **čub** "stick" as the instrument theme in a *with* phrase **bā čub** "with a stick" in (2). However, (18a) with

Now compare the important but ungrammatical sentence (18a) with its causative alternant with **zad-an** (2), repeated as (19), where the instrumental theme is used as a *with phrase* **bā čub**.

- While I have claimed that the instrument NP-complement of an instrumental PP combines with the LVs **zad-an** and **xord-an** to form CPs, such as **čub=xord-an** "to be punished" (18b), and **čub=zad-an** "to punish" (3), the ungrammaticality of (18a) shows that the instrumental PP is incompatible with **xord-an** in the first place. However, it is fine with **zad-an** (19).

Xord-an as the intransitive alternant of externally caused (ergative alternation) eventualities is inherently dyadic/transitive. The intransitive/ergative alternant is more marked and is normally derived from the transitive, causative one (18a vs 19) cross linguistically though the reverse direction is also attested and possible (see Chapter 4; L&R 1994, 1995; H&K 1987, 1988). The two alternants are phonologically and morphologically different words in MF, so it is conceivable that the LCS of the intransitive, ergative alternant might be derivable from the LCS of the transitive one. Ungrammaticality of the intransitive (18a) versus the acceptability of transitive (19) with the presence of instrument PP, and the fact that both *hamkards* can form CPs with the instrument noun *čub*

"stick", seems to further support this point. Here the MEANS clause of R&L (1988) comes into play.

In order to account for the possibility of (18b-19) vs (18a), I claim that *čub* and the primary (lexical) meaning/LCS of the verb *zad-an* are subordinated within a MEANS relation in a new LCS that denotes a change of state leading in CPs *čub=zad-an* (3) and *čub=xord-an* (18b)³. In the CPs with *zad-an* and *xord-an*, these two verbs are used in an extended and new sense and their formation and interpretation must be analyzed with recourse to the MEANS clause (cf. R&L 1988). The primary use/LCS of the full verbs *xord-an/zad-an* as verbs of impact that denote *causing the motion of an entity to come into contact with a goal object* comes to be subordinated within a MEANS clause in a new LCS associated with the extended use of these verbs as LVs/hamkards, i.e., as *verbs of change of state*.

The LCS for the full, lexical use of the transitive/causative *zad-an* in (19(=2)) where an instrumental PP is present in the clause is suggested in (20). The LCS (20) consists of two main predicates: (1) the production of an EFFECT (the result predicate) with two arguments, the effector *x* (=man "I"), and the effectee *y* (=Ali); (2) a MANIPULATION predicate (or means predicate (Laughren 1988)), again containing two arguments, the manipulator *x* (=man "I"), and the entity manipulated *z* (=čub). The second main predicate might still be decomposed into a number of subpredicates⁴.

³Descriptively, there are many CPs with *zad-an* that lack an inchoative variant with *xord-an* (and any other inchoative intransitive variants at all). There are also CPs with *xord-an* which function as the inchoative alternants of the transitive/causative hamkard *dād-an* "give". That is, all inchoative CPs with *xord-an* have a transitive, causative alternant CP either with *zad-an*, or *dād-an*, and rarely are there any inchoative CPs with *xord-an* without a causative alternant. This seems to further confirm that the transitive alternant of these ergative alternation hamkards is unmarked or less marked than the intransitive one.

⁴Note that the presence of the manipulated entity *z* (=čub) in the 2nd predicate introduced by *by* in (20) is crucial. Without a manipulated instrument, *z* (=čub) in (19 & 20), there cannot be a second MANIPULATION predicate and as a result no CPs with *zad-an* and *xord-an* (like 3 & 18b). In that case we would only have the first main EFFECT (=result) predicate

20. [x produce an effect in y] by [(x move the entity z forcefully backward and forward so that the entity z come into contact with y repeatedly) / (or simply by (x manipulate z))]

In the use of **zad-an** as the hamkard of the CP in (3), repeated below as (21), **zad-an** has acquired a new and extended sense, and is derived from its lexical use in (19) and the LCS (20).

21. man Ali rā čub zad-am (=3 above)
I Ali RA stick beat.ps-1S
I punished Ali.

The 2nd MANIPULATION clause in (20) is implied in an abstract sense in (21). The physical use and manipulation of an instrument is also abstract and secondary in (21). The main verb in (19) is used in a new, extended sense in (21) and is actually a CP meaning, "to punish". Even though (21) entails (19), it does not necessarily involve actual manipulation of a specific instrument, i.e., *čub*. In fact it is used when beating involves the arm and hands, but for the purpose of punishing somebody, i.e., beating of young kids by their parents or students by school coordinators in order to punish them.

(19) on the other hand emphasizes physical beating "by using a stick", and does not easily lend itself to the sense of punishment. The NP-instrument complement of the instrumental PP, i.e., *čub* in (19), comes to function as the nominal PV for the hamkard *zad-an* in (21), which provides the new sense of meaning unavailable in (19)⁵. The LCS of (21) is derived from the LCS of (19), i.e., (20),

with two arguments *x* and *y* corresponding to the simple transitive use of *zad-an* as in (1).

⁵Laughren (1988) derives the *Conative* use of the verb *chop* in Walpiri from its *Effect* use, and its *Goal* dative use from its *Obtain* use by subordinating the LCSs of the latter in a BY MEANS OF relation within the LCS of the former to denote a new extended use (cf. also recall the derivation of the *with* variant (6) from the *locative* variants (5) in the LCSs (8-9). Laughren (1988: 227-228) also claims that dative case is a type of inherent case directly assigned by the (impact) verb in finite or non-finite clauses in Walpiri, in contrast to the absolutive case assigned by the verb in conjunction with tense/mood in a finite clause. She shows that alternation between absolutive vs. dative case correlates with the "obtain" vs. "goal dative" uses of impact and perception verbs in Walpiri. She then convincingly argues that the relation between the two types of readings/uses of these verbs "must be represented at the level of LCS and not simply at that of the predicate argument structure (PAS), or at some other level of syntactic structure" where the LCS of the latter contains a BY MEANS OF component that embeds the LCS of the former in a new LCS. This relation is, of course, reflected in different relations in the respective PASs and syntactic structures.

via subordinating the latter within a MEANS clause of a new LCS that primarily denotes a change of state. Thus I suggest that:

whenever the LCS of the full verb **zad-an** consists of two main predicates, an effect predicate and a MANIPULATION predicate as in (20) corresponding to (19), so that the effect is brought about by the "MANIPULATION predicate", then we have to be able to construct a CP from the instrument noun expressed in the MANIPULATION predicate and the verb **zad-an** as in (21). This is done by subordinating the LCS of the former, (20), within a BY MEANS OF relation into a new LCS denoting a change of state. This correlates with a new and extended use of **zad-an** resulting in the formation of CPs both with **zad-an** and **xord-an**.

The LCS (22) corresponds to the CPs **čub=zad-an** "to punish" in (21), and **čub=xord-an** "to be punished" in (18b):

22. [x cause [y come to be affected/y come to be in a state]] BY MEANS OF [x produce an effect in y] by [(x move the entity z forcefully backward and forward so that the entity z come into contact with y repeatedly) / (or simply by (x manipulate z))]

The clause following the BY MEANS OF in (22) corresponds to the LCS of the original lexical meaning of **zad-an** in (19) and its LCS (20).

CPs with the inchoative, ergative **xord-an** are overtly associated with the central inchoative subevent in syntax, i.e., the causative subevent in (22), [*x cause*, is covert and implied. It may be replaced with *c* for *circumstance* as in the LCSs for **šod-an** in chapter (4-5). This is shown in (23) below for nearly all CPs with **xord-an** as (18b):

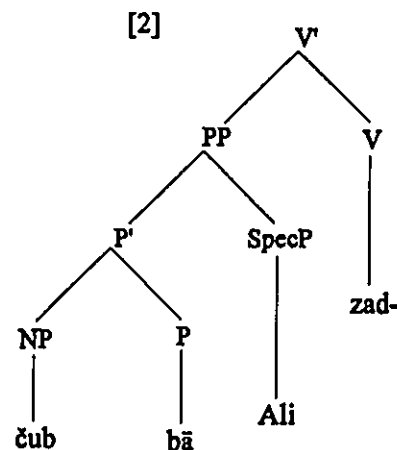
23. [c [y come to be affected / y come to be in a state] BY MEANS OF [x produce an effect in y] by [(x move the entity z forcefully backward and forward so that the entity z come into contact with y repeatedly) / (or simply by (x manipulate z))]

There are very few syntactically well-formed sentences corresponding to the LCS (20), i.e., the lexical use of **zad-an**, and (19) is a rare but crucial sentence where a *with* phrase related to the manipulated instrument is compatible with **zad-an** and is present in the clause.

6.4 The LRSs for the CPs with *Zad-an* and *Xord-an*

The syntactic representation in [2] is associated with the use of **zad-an** as a full, thematic verb in (19) and its LCS in (20)⁶. The head of the PP is filled with *bā* "with" to reflect (19) where the preposition is phonologically present.

The hamkards/LVs **zad-an** and **xord-an** subcategorize for a common interrelational complement (PP), similar to their use as full, lexical verbs, and have the argument structures shown in [1], and [2]. However, in their uses as hamkards the head of the PP is abstract in almost most cases. The complement of the preposition is occupied with an instrumental noun, vaguely manipulated by an (explicit or implicit) agent (through the BY MEANS OF relation in their LCSs), and the

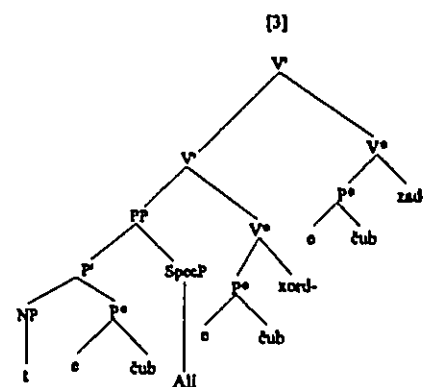


Spec-P is occupied with the affected entity. It is the instrument complement which functions as the PV of the resulting CPs with these two hamkards.

The LRS [3] is associated with the LCSs (22-23). It shows the LRS representation of the CPs *čub=zad-an* "to punish" (21) and *čub=xord-an* "to be punished" (18b) after conflation. *Ali*, the theme of change of state at Spec-P, has come to be in a state/be affected by the action denoted by the newly formed CPs. The instrument complement of the preposition, *čub*, first raises to its governing

⁶ The LCS of the inchoative **xord-an** (15-17), and [1], indicate that a stative PP constitutes part of the meaning of these two verbs as full verbs of impact. The LRS [2] differs from [1] in that in [1] the moved object occupies Spec-P, while in [2] the manipulated instrument (or moved object) (*z=čub* "stick") functions as the complement of the preposition. It is the affected argument, *Ali*, that occupies Spec-P in [2]. The PP in [2] counts as the internal complement of the simple transitive use of **zad-an** in (19) and (20) where a P+instrument noun is present in the sentence (cf. chap 3). Thus we endorse an identical argument structure/LRS for the full, lexical use and the light use of **zad-an** and **xord-an** as is shown in [1-2-3], i.e., a *single PP complement* for both.

abstract head, P, the complex then raises to the lower V head to form the inchoative head *čub=xord-* (18b), and then to the higher causative verb forming *čub=zad-* (21). Because the head of the preposition is also conflated, the sense of manipulation *by* an instrument is implied in CPs with these hamkards. The conflated heads count as *morphological objects*, and/or *syntactic words*.



No Spec positions are shown for the lower inchoative, unaccusative *xord-an*, or the higher causative *zad-an*. Spec-V positions seem to play no role in the structural relations depicted in the LRSs representations so far. *Ali*, the affected argument at Spec-P in [2-3], functions as the subject of the lower unaccusative CP *čub=xord-* in (18b) and as the DO of the higher causative CP *čub=zad-* in (21).

6.4.1 Some Variations in CPs Formed With *Zad-an* & *Xord-an*

The above analysis takes care of major alternations of the CPs with the transitive *zad-an* and the unaccusative (ergative) *xord-an*. However, there are a few cases where the inchoative CP-alternants with *xord-an* are not possible, but a CP with another LV is formed, i.e., '*ātaš=zad-an* "to set fire", *'*ātaš=xord-an*, but '*ātaš=gereft-an* "to catch fire"; *bālā=zadan* "to roll up", *'*bālā=xord-an*, but *bālā=raft-an* "to go up, to climb", etc.

The theory adopted in this thesis cannot in general predict which PVs occur with which LVs and vice versa. Nor do I believe that the nominal PVs are marked as to the LVs they may be used with (cf. Cattell 1984). The unacceptability of these CPs with *xord-an* seems to be due to the

aspectual properties of **xord-an**, **zad-an**, and the aspectual property of the resulting CPs.

The LV **xord-an** seems to indicate a spontaneous change in the state of its subject/theme through repeated instances of coming into contact of an instrument with a theme/subject. However, **zad-an** seems to have a wider range of aspectual properties as we will see below. In the causative CP **'ātaš=zad-an** "to set fire" and in ***'ātaš=xord-an**, **'ātaš** "fire" does not count as an instrument, and it undergoes no abstract repeated movements or manipulations to come into contact with a theme. On the other hand, the inception of *being on fire* if it were possible with **xord-an** might never lead to a *change* or *completion*. No repeated contact is implied in the meaning of the ungrammatical ***'ātaš=xord-an** either. *Inception* and *Change* seem to be part of the aspectual meaning of the CP **'ātaš=gereft-an**, where **gereft-an** means "get".

The meaning of the causative **bālā=zadan** "to roll up", where **bālā** means "up, upstairs", seems to be quite different from the inchoative CP, **bālā=raft-an** "to go up, to rise", so that the LCSs (22-23) do not seem to hold identically for both of them. The PV is not a nominal instrument, but is an adverb and is not compatible with **xord-an** but is compatible with **raft-an** which indicates a directional change towards a location. The two CPs seem to have been independently formed, with distinct LCSs. In fact, **bālā=raft-an** alternates with another causative CP **bālā=bord-an** "to move up, to raise" as well.

The aspectual property of the LVs seems to have an effect on their combinability with the nominal PVs and on the aspect of the resulting CPs. Singh (1990) argues that compound verbs in Hindi are closely related to situation type aspect, i.e., telicity versus atelicity, and the four aspectual event types in Vendler-Dowty. She argues that compound verbs are markers of telicity of the event even though the LV/*hamkard* by itself may be atelic. She shows that different LVs are used to

emphasize different stages of a telic event, i.e., the Initial endpoint, the natural Final end (completion) and the Resultant state in Hindi. She divides the LVs accordingly which accounts for their ability to occur in perfective, as opposed to imperfective forms, or neutral, and progressive or negation forms.

Butt (1993) also argues that the semantic and aspectual properties of the LVs like volitionality, inception/completion and those of the (verbal) PVs must be compatible with each other, and affect the choice of proper PVs and acceptability of the resultant CPs in Urdu. Thus she specifies the inceptive or completive sense, etc. of the LVs in their elaborated argument structure.

The lexical, idiosyncratic aspectual properties of the full verbs seem to be reflected directly or indirectly in their corresponding LVs, and the resulting CPs. The PVs might also have their own idiosyncratic aspectual properties. This type of information might be represented indirectly, i.e, in BY MEANS OF or subordinate clauses, and seem to have a direct impact in the choice and combinability of particular LVs with particular PVs at s-syntax (see Ghomeshi & Massam 1994 for a discussion of the effect of lexical (idiosyncratic) aspect on the choice and form of internal arguments in English and MF.) I leave this matter unresolved in this study.

6.5 CP-Alternations between *Dād-an* "to give" and *Xord-an*

Xord-an also enters into another productive set of causative/inchoative alternations with the LV *dād-an* "to give", e.g. *pič=dād-an* "to twist", *pič=xord-an* "to twist, to be wound"; *šekast=dād-an* "to defeat", *šekast=xord-an* "to be defeated"; *rešveh=dād-an* "to bribe", *rešveh=xord-an* "to be bribed"; *'āftāb=dād-an* "to expose to sunlight in order to dry, to dry", *'āftāb=xord-an* "to be exposed to sunlight"; *quteh=dād-an* "to plunge", *quteh=xord-an* "to be dunked, to plunge"; etc. The semantic relation between the variables in LCS of these CPs is not as

clear as it is for the alternations between **zad-an** and **xord-an**. However, the verb **xord-an** still counts as a verb of impact, though more abstractly and less tangibly, and reflects the LCS (11), and the LCSs (15-17) abstractly. The verb **dād-an** "to give" provides a higher causative clause that brings about the impact. In this set of CPs, the contact between the affected argument (or theme of change of state) in the subject position of **xord-an** and the goal (PV), represented by the inner P+NP in the LCS (15-17) and the LRS [2-5], is much more abstract and in many cases vague. Many alternations between the two hamkards require independent and separate analyses. Notice

- 24.a **bād** **deraxt** **rā** **tekān** **dād**
 wind tree RA shake give.ps.3S "The wind shook the tree."
- .b **deraxt** (*tavassote **bād**) **tekān** **xord**.
 tree (by wind) shake strike.ps.3S "The tree shook."

The choice of **dād-an** versus **zad-an** is not very clear. The presentational and the idiosyncratic aspectual properties of the two hamkards must be the determining factors in the choice between them. While **zad-an** seems to indicate the cause of an event occurring repeatedly and continually, i.e., coming into contact of an instrument with a goal in some several repeated but separate times, **dād-an** "to give" seems to me to act as the cause of an event which denotes a more permanent or continuous event of contact between two objects, even if the contact is of an abstract type. Furthermore, the nominal PV is not an instrument anymore which seems to have an effect on the choice of the LVs. The LCS of (24) must be very similar to the LCSs (22-23) provided for the alternations with **zad-an** since the hamkards in (24a-b) are used in a new and extended sense as well. I suggest the LCS (25) for the two CPs in (24):

25. [x Cause [y come to be affected / y come to be in a state]] **BY MEANS OF** [x produce an effect in y] by [(the entity z come to be in contact with y (or to be on y)) / or by (y come to be in a state indicated by the denotation of z (so that the denotation of z is noticeable from the present

(cf. (22))

The paraphrase for (24a), repeated as (26), is a sentence like (27) where the nominal PV **tekān** "shake" occupies the lowest and the deepest position in the VP-projection as the object of the preposition, and not as (28) where the PV occupies the object position of the verb (cf. Larson 1988).

- Note that (28) can never lead to conflation and formation of the CP **tekān=dād-an** "to shake" while (27) can, as shown in [4] below⁷.

That is, only when *saddle* occupies the lowest and the deepest level of the VP-projection in (ii), will it count as a non-argument and adjunct predicate and lead to the formation of the verb *to saddle*, and not when it occupies the DO argument position in (iii), (see chapter 3, and H&K 1991, 1993.)

clause, *Ali* in (29), then moves out of VP to take wide scope and case at a position adjoined to VP, and functions as the DO of the causative *zad-an* and *dād-an*. Or it may raise to function as the subject of the unaccusative *xord-an*.

6.6 Unergative CPs with *zad-an* as a Simple Transitive Hamkard

In this section, I study CPs with *zad-an* when it acts as a simple transitive hamkard and takes a sole nominal complement (1). The resulting CPs correspond to unergative verbs in English and CPs like *do+laugh* and *laugh+kard-an* in MF and Basque in § 4.1.3. These (unergative) CPs with *zad-an* do not alternate with unaccusative, inchoative CPs with *xord-an*, or any other inchoative, unaccusative CPs. They behave like *internally caused verbs of emission* in English (L&R 1994, 1995) that are inherently monadic and unergative.

Following Smith (1970), L&R (1994, 1995) define intransitive verbs that do and those that do not have transitive/causative uses by means of the notion *control*. Verbs like *laugh*, *play*, *talk* do not have an external control while verbs like *break*, *open* (cf. chapters 4-5) do imply an external control and have a transitive, causative alternant. L&R (1994, 1995) label the former verbs as *internally caused verbs* in that the eventuality denoted by these verbs cannot be controlled by an external controller, rather some property internal to the argument of the verb, e.g. a physical characteristic of these verbs or their arguments, is responsible for bringing about the eventuality. Intransitive verbs like *shudder*, *laugh*, *whisper*, *cough*, *yell* refer to an "activity that is relatively independent, and all refer to activity that can be controlled only by the person engaging in it", i.e., "control cannot be relinquished" (Smith 1970: 107).

In a verb like *play*, it is the will or volition of the *player* that causes the event of playing, and

no external cause is involved (L&R 1995). Thus, while (30a) is possible, (30b) is not since an external controller is not conceivable.

30.a The children played. (L&R 1995: 80, their (2))

.b *The teacher played the children.

These verbs are inherently monadic, intransitive and normally correspond to unergative verbs in that their sole argument is external. They differ from the intransitive alternants of the externally caused verbs, like *break*, that are unaccusative, with a sole internal argument. Verbs like *break* easily accept an external controller and alternate with causatives while the former that have an external argument (internal controller) do not easily accept an external controller and hence do not alternate with causative forms⁸.

Apart from the famous cases of internally caused verbs that syntactically function as unergative verbs, e.g. *talk, speak, laugh, play, run*, L&R (1994, 1995) analyze another set of verbs that satisfy the definition of the internally caused verbs and syntactically belong to the unergative class. Smith (1970) refers to them as the verbs of "emitting sounds". L&R label them as verbs of *emission* and divide them into the four different groups: sound e.g. *buzz, whistle, ring, light*, e.g. *flash, flicker, shine*; smell, e.g. *reek, smell, stink*; and substance, e.g. *bubble, gush, puff*. According to L&R (1994: 49) "it is an internal physical property of the argument of such a verb which brings about the eventuality denoted by the verb", as a result verbs of emission "generally do not have causative counterparts" (L&R 1994: 49).

⁸The equivalent of *play* in (30a) is expressed with the CP *bāzi=kard-an* "play+do, to play". This CP cannot be used transitively either just like *play* in (30b). No other simple verb or CP is there to function as a causative alternant of the internally caused CP *bāzi=kard-an*. However, these verbs/CPs may also have causative uses to a limited degree which are marked cases, and are subject to strict semantic constraints (see L&R 1995: 110-119).

Play in (30a) involves the volition of the *player* (the argument of *play*) to perform the activity and hence indicates an agentive subject. But, the subjects in (31-32) are not animate or agentive but they still count as the internal controllers of the activity of *sparkling* since it is an inherent, physical property of diamonds and jewellery to *sparkle*. The subjects in (31-32) count as external arguments. In both (31-32) and (30), we are concerned with unergative verbs which do not participate in causative alternations ((b) examples) and do not allow a causative use of the verb. The main predicate in (32) is a CP made of a transitive verb plus a nominal PV.

- 31.a The diamond sparkled.
 .b *The jeweller sparkled the diamond. (L&R (1994))

- 32.a javāher barq mi-zan-ad
 jewell shine IND-hit.ps-3S
 The jewellery sparkles.
 .b *javāher-foruš javāher rā barq mi-zan-ad
 jeweller jewellery RA shine IND-hit.ps-3S
 The jeweller sparkles the jewellery.

Intransitive CPs formed **zad-an** make up the major set of *emission* verbs in MF. **Kešid-an** "to pull, to draw", and to a lesser degree **kard-an** (plus a nominal PV which normally denotes the object that emits the sound, smell, light, or substance) are also used in this set. There are very few simple intransitive verbs of emission in MF, with **deraxšid-an** "to shine" being the most frequent one.

However, while the CP **barq=zad-an** "to sparkle" in (32a) is clearly an internally caused verb of light emission with an inanimate, non-agentive subject, the CPs (33-34) with **zad-an**, and a nominal PV denoting a device of sound emission, are only characterizeable as externally caused predicates.

33. Amir violon zad
 Amir violin hit.ps.3s "Amir played the violin."

34. Amir xub folut mi-zan-e
 Amir well flute IND-hit.prs.3S

"Amir plays flute well."

The CPs *violon*=*zad-an* "to play violin" and *folut*=*zad-an* "to play flute" (33-34) have every property of externally caused verbs (of sound emission) in that their subject, *Amir*, functions as an external controller who directly manipulates some devices in order to produce a sound by bringing about (separate and repeated instances of) contact between two surfaces. The PVs *violon* and *folute* function as the internal complements, objects, of the transitive *zad-an*, similar to examples like *laugh+do*. The CPs in (33-34) do not alternate with any other internally caused simple verb or CP and hence do not have an (in)transitive alternant. The devices *flute* and *violin* cannot be (easily) conceptualized as emitting a sound under their own control while the *diamond* in (32a) in MF and the *doorbell* in (35) in English can. This is contrary to the classification of verbs of sound emission as internally caused verbs in L&R (1995).

However, L&R make a distinction between some members of the verbs of emission (light and sound) in English, Modern Hebrew, and cross-linguistically, which seem to be characterizable by the CPs with *zad-an* in this section. L&R (1994, 1995: 98-101) claim that "there are some events in the world that can be construed as either internally or externally caused". As example they provide some verbs of light emission, e.g. *flash*, *beam*, *shine*, and more verbs of sound emission, e.g. *buzz*, *ring*, *rustle*, *jingle* which have both intransitive/unergative uses and transitive causative uses as in (35-36). However, the major point worthy of emphasis is that the transitive use of these verbs (35b, 36b) is not related to, and derived from, their intransitive use (35a, 36a) (and vice versa) as it was the case with the causative or ergative alternation verbs like *break*, *open*. The verb of sound emission *ring* is used transitively in (35b) but intransitively in (35a) (from L&R 1995: 115-117):

- 35.a The doorbell buzzed/rang.
- .b The postman buzzed/rang the doorbell.
- .c *The short circuit buzzed/rang the doorbell.
- 36.a The bees buzzed.
- .b *The postman buzzed the bees.

The verbs *ring* and *buzz* in (35a-36a) are instances of internally caused intransitive verbs in that it is an internal physical property of a *doorbell* that it can produce a buzzing sound. L&R (1995: 118) claim that certain devices, such as *doorbells* and *buzzers*, can in certain circumstances be conceptualized as emitting the sound under their own control. It is a natural, inherent capacity of *bees* to emit a *buzzing* sound.

However, in (35b-c & 36b), according to L&R (1994, 1995), *ring* is used as an externally caused transitive verb. In (35b) an agentive external controller has caused the production of the *buzzing* sound from a device. The ungrammaticality of (35c) vs the grammaticality of (35b) indicates that only an agentive subject, and not an instrument or natural force, can function as the external cause, contrary to what we saw in the case of *break*. However, the grammaticality of (35b) vs the ungrammaticality of (36b) shows that only if the emitter of the sound is a device, i.e., *doorbell* vs *bees*, it can be caused to emit a sound through direct manipulation by an external cause, and hence that verb may be used transitively.

L&R (1995: 115) call the alternations in the use of *ring/buzz* in (35-36), and other emission verbs that can be used transitively, as "spurious" causatives. By "spurious" they mean "where appears to be a causative pair involves two distinct verb meanings--one of them causative--that are not derivationally related". The seemingly causative alternation between the transitive *ring* (35b) and

intransitive *ring* (35a) represents a different phenomenon from the alternation between the transitive *break* and the intransitive *break* (see chapters 4-5). That is, the relationship between the two uses of *ring* in (35a vs 35b) cannot be subsumed under a causative pair like *break*, *open* which is paraphrasable as "cause to V-intransitive".

This means that the two uses of *ring* in (35a vs 35b) are not derived from an identical LCS as is the case with an externally caused verb like *break*, where both the transitive and intransitive *break* are associated with and share the LCS (37), with two subevents. In its intransitive use the *x* argument is bound lexically and not projected to argument structure (see L&R 1995: 108; chapters 4-5). The causative use of *break* entails its noncausative use.

37. *break*: [[*x* DO-SOMETHING] CAUSE [*y* BECOME **BROKEN**]] (L&R 1995, their (25))

However, the alternation in the use of *ring/buzz* in (35a-b, 36a-b) cannot be related to a LCS with two subevents as in (37) since otherwise we would expect the unergative, internally caused verbs to alternate frequently with causative, transitive forms, and they do not. Furthermore, as L&R (1994, 1995) show in detail, the transitive use of these verbs is more marked and is much more restricted in the choice of the emitter and the external controller than the intransitive use (35b, 35c vs 35a, 36a) (see also H&K 1987, 1991 for a similar account). That is, internally caused eventualities are basically monadic, intransitive/unergative. The transitive alternants of these verbs are very rare and are derived from the intransitive uses under strict constraints cross-linguistically.

L&R (1994, 1995) provide numerous arguments to show that the LCS of *ring/buzz* in (35) cannot be a causative LCS like (38) from which both the transitive and intransitive *ring/buzz* would derive:

38. **ring*: [[*x* DO-SOMETHING] CAUSE [*y* BECOME **RUNG**]]

They claim, convincingly, that we are facing an internally caused verb of emission, *ring/buzz*, in (35a-36a) but an externally caused verb of emission, *ring/buzz*, in (35b-36b) with distinct meanings and distinct LCSs, and hence they are derivationally distinct. They mention certain restrictions on the set of pairs that can appear in such "odd", "spurious", and "marked" alternations. "In general, externally caused uses are found with verbs describing sounds emitted through contact between two surfaces, such as *jingle*, *rattle*, and *rustle*" (L&R 1995: 118). Only when manipulable entities and devices like *dishes*, *keys*, *bells* (and *violon* "violin", *folut* "flute", *šeypoor* "trumpet", etc. in case of MF) function as the emitter, and only if a direct external controller is present, may the verb of emission be used as an externally caused eventuality.

Returning to (32a) and (33-34), the CP in the former, *barq=zad-an* "to spakle", counts as an internally caused verb of emission while the CPs with the latter, *folut=zad-an* "to play flute" and *violon=zad-an* "to play violin", are externally caused CPs of emission. Neither set has an (in)transitive alternant. The first set (32a) behaves as an unergative verb, a desired result. The second set (33-34) also behaves like unergative CPs as *laugh+do* and *khande=kard-an* in Basque and Persian. The two uses of *zad-an* are derivationally unrelated in that they cannot be derived from causative LCSs like (37-38).

Notice the interesting Persian equivalents of the dual event *ring*, in (37):

- 39.a **zang** **xord**
 bell collide.ps.3S
 (The) bell rang. (Only used for school bells)
- .b **postči** **zang** **zad**
 postman bell hit.ps.3S
 The postman rang the bell.

It is possible to conceptualize *zang* "bell" in (39a) as a device that can emit a sound due to

its internal property, making up the internally caused CP equivalent of *ring* (35a) where an independent event of *ringing* has happened. The sentence (39a) seems to have no subject. *Zang* functions as the nominal PV forming the internally caused phrasal CP *zang xord-* in (39a).

On the other hand, in (39b) an agentive external controller causes the production of a sound by manipulating a device and by bringing (abstractly) two surfaces into contact repeatedly in separate instances. Here the CP *zang=zad-an* behaves as an externally-caused CP, equivalent to (35b). (39a) and (39b) are thus derivationally unrelated. Now notice the more interesting examples in (40):

- 40.a *sā'at be-moqe' *zang* *xord*
 clock to-time bell collide.ps.3S
 The clock rang in time.
- .b sā'at be-moqe' *zang* *zad*
 clock to-time bell hit.ps.3S
 The clock rang in time.

Both instances of the CPs in (40) seem to behave as internally caused events. It is not implied in the meaning of either of (40) that *the clock rings* due to some external controller. Rather, it can be conceptualized as an internal property of *the clock* to have the property of *ringing*. In both, *sā'at* "clock, watch" is in the subject position and counts as the emitter of the sound. However, (40a) with *xord-an* is ungrammatical, while (40b) with *zad-an* is fine, showing that only the transitive LV *zad-an* may form an internally caused event, and *xord-an* which is an unaccusative (inherently externally caused ergative) verb is incompatible with an internal agent/controller. Thus, *zang=zad-an* "to ring" is a possible internally caused CP-INF, but **zang=xord-an* "to ring" in (40b) is not a grammatical CP-INF⁹.

⁹ (39a), *zang-xord-* "the bell rang", is a unique clause, and makes up an internally caused phrasal CP which lacks a corresponding lexicalized CP-INF, etc. The clause in (39a) has no subject. (39a) is a case of impersonal construction where the subject position is empty and we confront a VP in (39a) (see chapter 4). It counts as a case of *degenerate predication*

41. postči zang zad (39b)
 postman bell hit.ps.3S
 The postman rang the bell.

42. sā'at be-moqe' zang zad (40b)
 clock to-time bell hit.ps.3S
 The clock rang in time.

and lacks the lexicalized CP-INF *zang-xord-an which is ungrammatical (as an internally caused CP.)

(i) postči zang-ro zad (41)
postman bell-RA rang.ps.3S
The postman rang the bell. Lit. The postman hit the bell.

(ii) *sā'at be-moqe' zang-ro zad (42)
clock to-time bell-RĀ hit.ps.3S
The clock rang in time. Lit. The clock hit the bell.

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43. *man sā'at- ro be-moqe' zang zad-am (cf. 42)
 I clock RA in-time bell hit.ps.1S
 I rang the clock in time.

In sum, the simple transitive impact LV **zad-an** is interchangeably used to form internally caused CPs, (32) & (42), and externally caused CPs, (33-34) & (41). Both sets are related to the emission of sound, light, smell, etc. The internally caused CPs, (32a, 42) are intransitive, monadic and cannot be further transitivized (32b, 43). The externally caused CPs (33-34, 41) also make up intransitive CPs just like CPs with *laugh+do* and *khande+kard-an* in Basque and Persian. The two uses of **zad-an** are not derivationally related to an identical causative LCS since we already now that **zad-an** alternates with **xord-an**, just like the two uses of *ring* in (35-36).

CPs with **zad-an**, in this section, correspond to the four divisions of verbs of *emission* by L&R (1995). In all the CPs, in (44) below, the aspectual property of the impact verb **zad-an** conveying a set of continual, but separate instances of the same movement/activity, or of emission of sound, light, etc, or what Barjasteh (1983: 356) calls "a series of repeated movement", is detectable. This property might be representable within BY MEANS OF subordinate clauses. While the major body of these CPs are formed with **zad-an**, CPs with other LVs, specifically with **kešid-an** "to pull" which may be called CPs of "body processes" (L&R 1995) or CPs of "inhaling/exhaling" (Barjasteh 1983), and with **kard-an** "to do" are also possible, supporting the correctness of the analogy between **zad-an** and **kard-an** as unergative CPs.

In the list (44), I have divided the verbs of sound emission into two groups of externally and internally caused CPs. In the externally caused CPs of sound emission (44 (aI)) the nominal PV is

backgrounded than in (i).

normally a device that can emit separate instances of a sound only by being manipulated by an agentive, animate controller that functions as the subject in syntax. In the internally caused CPs of sound emission (44 (aII)) the nominal PVs normally denote the sound (light, smell, substance, bodily activity, etc) naturally emitted by a device (or organ) that functions as the subject. The other CPs in (44) seem to count as internally caused verbs.

44.a *Sound emission*:

I. *Externally caused*: *sut=zad-an* "whistle"; *telefon=zad-an/or =kard-an* "to call up"; *tabl=zad-an* "to drum"; *violon=zad-an* "to play violin"; *folut=zad-an* "to play flute"; *zang=zad-an* "to ring".

II. *Internally caused*: *vez-vez=kard-an* "to buzz, to hum"; *zang=zad-an* "to ring"; *harf=zad-an* "to talk"; *dād=zad-an* "to shout"; *nafas-zad-an* or *nafas=kešid-an* "to breathe"; *jiq=zad-an* "to scream"; *bāng=zad-an* "to cry"; *na're=kešid-an* "to roar"; *zer=zad-an* "to thrum"; *faryād=zad-an* or *faryād=kard-an* "to yell, to cry" or *faryād=kešid-an*¹¹ "to cry, to yell".

.b *Light emission*: *barq=zad-an* "to glitter"; *su-su=zad-an* "to flicker"; *češmak=zad-an* "to twinkle"; *jaraqqe'=zad-an* "to sparkle, flash"; *barq=zad-an* "to shine";

¹¹There is an aspectual difference between these three LVs. *Zad-an* emphasizes a set of repeated, continual but necessarily separate movements, activities or sounds as discussed above. *Kešid-an* "pull, draw" seems to form CPs that stand close to verbs that L&R (1995) call verbs of bodily process like *burp*, *yawn*, etc. Barjasteh (1983:367) calls them compound verbs of inhaling and exhaling since many (but not all) of the CPs with *kešid-an* denote activities that involve some organs of the body and producing some sound or exhaling and inhaling. However, aspectually this verb seems to denote a continuous and constant stretch of activities or sounds, ... not separated from each other. Thus, while *nafas=zad-an* means "to pant", a set of separate instances of breathing, the CP *nafas=kešid-an* means "to breathe" which is a continuous and non-separated activity. Similarly a CP like *sut=zad-an* "to whistle" denotes separate instances of the sound produced with a whistle when an agent puffs in a whistle while *sut=kešid-an* "to whistle" denotes the continuous sound of whistling produced by puffing or blowing through the fingers or lips only. The LV *kard-an* seems to be neutral with respect to these two notions.

.c *Smell emission*: bu=dād-an "to smell".

.d *Substance*: javāne=zad-an "to bud"; dast=zad-an "to clap"; sar=zad-an "to stop by";
kaf=kard-an "to foam"; buse=zad-an "to kiss"; pā=zad-an "to cycle".

According to L&R (1995: 118) "in general, externally caused uses are found with verbs describing sounds emitted through contact between two surfaces, ..."¹².

L&R (1994, 1995: 94, their (26-27b)) propose (45) as the LCS of internally caused events (and unergative verbs in general). The LCS (and LRS) in our system includes an internal complement for all members of the universal category *verb* and does not distinguish between the syntactic projection of unaccusatives and unergatives (46). In (46a) *do* stands for a LV, and V stands for an abstract LV in (46b):

45.a Laugh: [x LAUGH]

.b [x PREDICATE]

46.a Laugh: [x *do* LAUGH]

.b [x V PREDICATE]

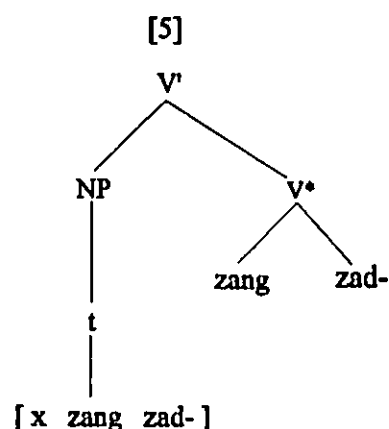
I suggest that (46) is the LCS for both internally caused and externally caused CPs of emission with *zad-an*, *kard-an*, and *kešid-an* in this section. The two types of events are not related to each other derivationally rather they differ in the choice of the subject and probably the more detailed

¹²Basque makes use of periphrastic LV constructions to convey the counterparts of the most commonly cited agentive unergative verbs of other languages with the light verb *egin* "do/make" and a noun, e.g. *barre egin* "laugh do" (L&R 1995: 140-141; chapter 3). L&R (1995: 140) report that Basque counterparts of some English verbs of emission are also expressed with a noun+*egin*, e.g. *giltz-zarata egin* "jingle"; *kirrinka egin* "creak"; *diz diz egin* "shine, glow", etc. More interesting is that Basque like Italian uses different auxiliaries to differentiate between unaccusative verbs and other types of verbs. L&R report that the verb *egin* is used with the auxiliary *ukan* which marks non-unaccusative verbs. L&R take this parallelism to justify their analysis of the simple verbs of emission as inherently monadic, unergative in English. However, this is also a good parallelism with the emission CPs formed with *zad-an* and *kard-an* in Persian showing that these LVs are also transitive and/or unergative CPs/verbs.

semantic properties which might be expressable within subordinate clauses of the LCS. The LCS of the externally caused CP of sound emission (41) and the internally caused CP of sound emission (42) is given in (47):

47. **zang=zad-**: [x ZANG zad-] (by MEANS OF [x manipulating some entity and bringing it into contact with zang which leads to the production of a sound (=41)]; or by MEANS OF [x emitting some repeated instances of a sound which might have been produced by two entities coming into contact repeatedly (=42)])

The LRS representation of (41-42) after conflation is given in [5] where **zang**, the direct internal argument of the LV **zad-**, conflates into its governing head to form the complex head **zang=zad-**, a morphological object and a syntactic word. The complex head **V*** in [5] corresponds to a simple unergative verb like *ring* in English or *deraxšid-an* "to shine" in MF.



At s-syntax, the nominal PV, **zang** a common noun, counts as a weak object for the LV **zad-an**, and has an existential reading. The context is reminiscent of DE and the PV and LV enter into theta-identification within V-bar (Higginbotham 1985) which counts as a phrasal CP. The s-syntactic tree diagram is identical to [5], excluding the conflation. Functional projection and raising due checking, etc, are then built over that syntactic projection. V-bar as a phrasal predicate is subject to the *predication condition*, i.e., it must satisfy its open positions and be predicated of a subject in s-syntax.

We suggest that the conflation and lexicalization of CPs follows their syntactic derivation and proper predication. This means that lack of proper predication may prevent the subsequent conflation at LRS or morphological structure as we noted from (39a; ft. 9).

6.7 Conclusion

In this chapter I have studied CPs with the LVs **zad-an**, **xord-an** and **dād-an**. In § 6.1 and 6.2, I argued that **xord-an** is an inchoative verb of *impact* and alternates with **zad-an** as a causative verb of *impact*. I then showed that these two verbs may also be used in a new extended or backgrounded sense and form ergative/causative alternation CPs. I showed that the new extended use of these two verbs are produced by MEANS clause in the LCS in which an event or process serves as the means of bringing about a second state, event, or process. This was done, following R&L (1988), by subordinating the lexical, primary LCS of these two verbs in a new LCS containing a BY MEANS OF clause associated with an extended sense.

In § 6.3, and 6.4, I sketched an identical LCS and LRS for these two ergative alternating CPs. I showed that CPs with these two hamkards involve LCSs in which the expression of an instrumental nominal in the form of an (abstract) *with-phrase* in the primary LCS of **zad-an** and **xord-an** is subordinated within a BY MEANS OF clause in a new LCS. It is the instrument nominal that forms CPs with these two hamkards. This was reflected in a LRS which consisted of a higher causative VP (**zad-an**) and a lower inchoative VP (**xord-an**) which shared a stative, interrelational PP as complement. The instrument complement of the PP would conflate into the abstract prepositional head and then into either of the two verbal heads to form the causative alternations between **zad-an** and **xord-an**. A very similar process accounted for the causative alternation between **dād-an** and **xord-an** in § 6.5.

In § 6.6, I analyzed another set of CPs with **zad-an** and compared them to the unergative verbs of emission in English. Following L&R (1994, 1995) I distinguished between two types of CPs of emission with **zad-an**, i.e., *internally caused* and *externally caused*. I tried to show that the two

types are not derivationally related to each other by analyzing CPs such as **zang=zad-an** "to ring". I showed that these CPs lack a LCS containing an explicit instrumental PP within a MEANS clause, and within LRS. The verb **zad-an** is more backgrounded and emptied in this use than in its use in § 6.1-6.5, where it still maintained parts of its lexical, thematic substance as a transitive verb of contact. The notion of contact and the instrument used to bring the contact with an entity was argued to be vague and mainly implicit in the pragmatic context. In the absence of an instrument PP in the LCS and LRS no causative alternation was observed in the set of unergative CPs addressed in § 6.6.

CHAPTER VII

The Single Complement Hypothesis

7.0 INTRODUCTION

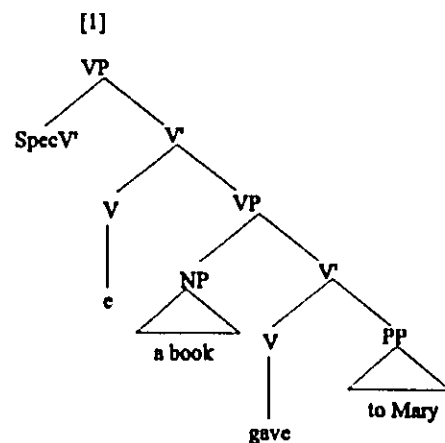
The ideas developed in the previous chapters naturally lead to a study of CPs formed with the causative LV **dād-an** "to give" and its alternant inchoative hamkards that form contrastive, passive CPs with it, i.e., **gereft-an** "to get, to receive", **yāft-an** "to find", **xord-an** "to collide", **šod-an** "to become", and the seemingly stative verb **dāšt-an** "to have". **Dād-an** also has equivalent CPs with the hamkard **kard-an** "to do" with slight aspectual and semantic differences. However, in order not to make the present work longer than it need be, I will confine this chapter to a general overview of the CPs with **dād-an** in MF and the English *give* drawing from the work of Larson (1988) to further delineate the properties of V-bar as a complex lexical integer. In § 7.1, following Larson, I show that in a clause like *John gave a book to Mary* the PP *to Mary* occupies the lower and inner level of the projection of *give* within V-bar, i.e., a syntactic position closer to the verb, when compared with *a book*. As a result *give to Mary* forms a syntactic and semantic unit within V-bar, called a *small predicate* (Larson), to the exclusion of the DO *a book*. Section 7.2 shows that V-bar, in CPs with **dād-an** "to give" in MF, is formed very similar to CPs with English *give*. This theory is then used to argue for the *single complement hypothesis* for the members of the lexical category *verb* in § 7.3. This supports the *universal category verb*, which we adopted from Hale & Keyser (H&K) (1994), that universally assumes a single XP complement for triadic, dyadic, and moradic intransitive/unergative (full and light) verbs.

7.1 Give as a Simple Triadic Verb

Larson (1988) presents an interesting analysis of double object constructions that implements a proposal about dative structure suggested by Chomsky (1955, 1957) according to which a simple dative like (1) derives from an underlying configuration in which the verb and its IO make up a constituent, i.e., *gave to Mary*, that excludes the DO. He names this constituent a *small predicate*, a *complex lexical category*, and a *complex predicate* (Larson 1988: 148-149).

1. John gave a book to Mary.

He argues that in (1)/[1] the higher VP is made of an empty V taking a VP complement with *a book* as its specifier, *gave* as its head and *to Mary* as its sole complement. Larson claims that [1] is "intuitively" understood as: *Gave* takes the complement *to Mary*, forming a small predicate *gave-to-Mary* as in Chomsky (1955, 1957) which is predicated of an



inner subject, *a book*, forming a clause-like structure: *a book gave to Mary*. This VP is then predicated of the subject *John*. The lower V then raises to the higher empty verb to give the surface sequence in (1).

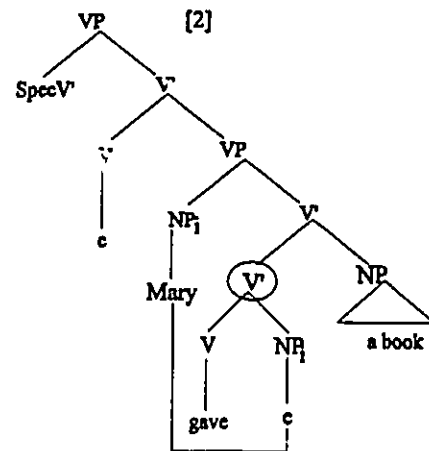
According to Jackendoff (1990) the verb *give* in (1) is a verb of *transfer of possession* that indicates the movement or transference of a theme, *a book*, to a goal, *Mary*.

However, Larson's derivation of the dative shift to get the double object construction in (2) is more interesting. He derives (2) through application of the standard rule of passivization, in the inner clause-like VP in [1], that absorbs the dative case assigned by the preposition *to* to the goal complement, *Mary*. This causes *Mary* to raise to the inner subject position, the specifier position of

the inner VP to replace *a book*. This position due to the application of passive does not receive a theta role anymore and *a book* is demoted to a VP-adjoined position as in [2] from Larson (1988).

2. John gave Mary a book.

The demoted argument, *a book*, is adjoined to V' and counts as an adjunct argument, but it still requires case. Larson argues that it receives case when V' is reanalyzed as V (circled) (as a verbal head) and assigns inherent case to *a book*. Notice that the notion of transference of *a book* to a goal, *Mary*, conveyed by [1] is *backgrounded* in [2] through passivization that highlights the state of the DO but demotes



the subject. *Mary* is an affected *beneficiary* rather than a *goal* in [2]. *Give* has turned into a CHANGE of STATE predicate in (2)/[2]. Now, we seem to have a new small predicate, *give a book*, formed with the inner adjunct argument, *a book*, predicated of *Mary* (Larson 1988).

According to Jackendoff, in (2), *Mary* as the DO is not a simple goal as it was in (1); rather *Mary* is a passive beneficiary and is positively affected by transference of *a book* to *her*. He claims that the use of dative shift is a means of *canonically marking the Beneficiary role* to the IO (Jackendoff 1990: 136).

The analysis so far reveals that the NPs/PPs that are/remain within the inner projection of the VP-shell, inner V' in [1]-[2], behave as adjunct arguments, and form a syntactic/semantic constituent with the verb, within V-bar, to the exclusion of the (inner) subject at the SpecVP. The trees [1]-[2] also show that the syntactic configuration of a triadic verb like *give* is split so that a V⁰ always asymmetrically selects a single complement, e.g., VP, NP, or PP.

Now, notice the following CPs from Larson (1988: 376), taken in turn from Green (1974):

- 3.a Mary gave John a black eye.
.b *Mary gave a black eye to John.
- 4.a Mary gave John a kiss.
.b *Mary gave a kiss to John.
.c Mary kissed John.

In the examples (3a-4a), *black eyes*, *kiss*, do not undergo "motion" along some path to get to a goal. The goal reading of *give* with a to-NP phrase is not available anymore, (3b-4b). The double object constructions in (a) are not associated with basic dative constructions as we see from the ungrammaticality of the (b) examples. This means that double object constructions in (a) are not derived from the basic structure *V NP PP in (b), [1], rather they seem to have been independently generated as V NP NP, like [2], (see Jackendoff 1990; Larson 1988; Cattell 1984). That is, we seem to have a causative CHANGE of STATE *give* in (3a-4a) where *give* is used in a *backgrounded* sense just like (2)/[2].

John in (4c) is the DO of the corresponding verb, *kiss*, and thematically counts as the affected argument or patient/beneficiary. Similarly, if *John* has any semantic role in (3a-4a-4c), it can only be "the theme of a change of state or patient", or "goal of action" (in terms of Cattell 1984), and definitely not a "goal of theme" (as in (1)). According to Larson (1988) "there appears to be an extra dimension of "affectedness" at work in (3-4) that favours the double object versus the oblique construction."¹

¹According to Jackendoff (1990: 136) in the use of *give* as a LV, i.e., *give X a kiss*, "what is being preserved of the regular verb *give* is its action tier, in which X is the second argument." The first argument is the agent/subject. The thematic tier of the regular use of *give* as a verb of transfer of possession is not inherited. The second position in the action tier is occupied

However, in the light use of *give* in (5) no IO or goal *to*-phrase is involved. *Give* is used as a simple dyadic, transitive verb, rather than a triadic verb, and its sole complement position is satisfied by the predicative nominal *sneeze*.

5.a John gave a sneeze. (Cattell 1984:67)

.b *John gave Cathy a sneeze.

.c *John gave a sneeze to Cathy.

This clearly shows that the base-generated double object construction analysis [2], which seemed to render a new sense to *give*, is not tenable for the CP *give a sneeze* in (5a) anymore. Comparing (1-2) with (4-5) we see that the arguments or θ -sets of the CPs with *give* are determined by the predicate nominal *kiss* and *sneeze* respectively and not by *give*. In (4c) where *kiss* is transitive, the CP *give ... a kiss*, (4a), inherits the DO of the *kiss*. Since *kiss* (4c) does not license a goal *to*-phrase, the resulting CP with *give* does not do so either as in (4b), (see Cattell 1984 for more evidence)².

In summary, the observations in (3-5 & ft. 2) indicate that in CPs formed with the LV *give* in English, only the predicate PV determines the theta-set or arguments of the resulting CPs, and *give* provides no arguments. Below, I provide data from *dād-an* "to give" in MF that seem to support the results drawn from the English *give*.

by the affected argument, X, i.e., a patient, beneficiary, or undergoer which surfaces as the DO in active sentences as shown in [2], (3a-4a). This means that the original sense of *give* is reduced and backgrounded (to a new sense).

²According to Cattell (1984:71) the theta set, arguments, of the CPs with *give* (and all the other LVs) are determined by the predicate nominal. However, the GF of CPs with *give* may be determined by *give* as well as the predicate nominals since *give* in English allows both dative and double object constructions. Cattell (1984: 40-66) also argues that in the CPs formed with *make*, the theta roles (arguments) and the GFs involved are those that are in the lexical entry of the nominal PVs, and the lexical details of *make* cannot contribute any arguments. Thus, in the light use of *make*, which is not a triadic verb like *give*, we may see cases of double object and dative constructions which is derived from the nominal PV, *offer* in (i):

- i.a Harry made the police an offer of money.
 .b Harry made an offer of money to the police.

7.2 Dād-an "to give" in MF

The verb *dād-an* "to give" in its lexical use can be classified as a triadic verb of transfer of possession similar to *give* in English as in (6):

- 6.a Amir ketāb rā be Mehri dād
Amir book RA to Mehri give.ps.3S
Amir gave the book to Mehri.

The order of the DO and IO may be changed with almost no difference in meaning (6b), but the double object construction is not allowed (6c):

- 6.b Amir be Mehri ketāb rā dād
Amir to Mehri book RA give.ps.3S
Amir gave the book to Mehri³.

- 6.c *Amir ketāb rā Mehri dād
Amir book RA Mehri give.ps.3S
Amir gave Mehri the book.

As a LV/hamkard, *dād-an* combines with predicative nominals to form CPs. The CPs with this hamkard are very productive, and the verb is used in an abstract, figurative sense, and does not convey the sense of transfer of possession as it does in ordinary use (6). Notice (7) where all the arguments in the CPs formed with *dād-an* are provided by the PV just like those with English *give*.

7. Mehri be Amir qowl dād ke bere.
Mehri to Amir promise give.ps.1S that go.1S
Mehri gave Amir a Promise to go.

The CP in (7) inherits the PP, and the subordinate *ke*-clause from the predicate PV *qowl* "promise",

³Just as in English, the goal argument of *dād-an* may function as the subject of the inchoative verb *gereft-an* "to get, to receive" as in (i). The goal *Mehri* in (6) functions as the "passive beneficiary" (Jackendoff 1990: 136) of the event of *receiving the book* in (i).

- i. Mehri ketāb rā (az Amir) gereft
Mehri book RA (from Amir) get / receive.ps.3S
Mehri received/got the book (from Amir).

In (8b) the nominal PV selects a direct internal argument (object NP), in the form of an EZĀFE phrase (*of-object* in English) that surfaces as DO of the CP with *dād-an* (8a) and the subject of the CP with the inchoative LV *yāft-an* "find" (8c).

- In (8c) where the LV is unaccusative, the external argument of the PV is demoted to an optional by-phrase status. While a goal **be-PP** is obligatory in the full use of the verb **dād-an** in (6), it is ignored in its light use in (8a).

9.a Mīna xāne rā be Mehri ejāreh dād
 Mīna house RA to Mehri lease give.ps.3S
 Mīna leased the house to Mehri.

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We see that the number of the arguments and their GFs in CPs with *dād-an* in MF are determined by the nominal PV. We have to either assume separate deep syntactic configurations for the distinct uses of the LVs *give*, and *dād-an* in the CP-structures, and their uses as full verbs as in (1-2) & (6), or suggest a uniform syntactic configuration which can account for the distinct syntactic realizations of *give*, *dād-an* in the two languages. I opt for the latter option, and I wish to argue for a *single complement hypothesis* as in Larson (1988: 380) claiming that "natural language distinguishes one kind of relation as fundamental, namely, the transitive one." This supports our analysis throughout this thesis that CPs are formed only when a predication category (non-argument) is in the position of the head word of an XP which is the sole subcategorized internal complement of a simple transitive/unaccusative LV⁴. The complement is in the position of a head X of an XP that occupies the DO position or the position immediately c-commanded by the LV in syntax. All the other arguments and GFs are determined by the predicative XP. In fact, in the full use of the verb *give* as a triadic verb, (1)/[1], we also notice the *single complement hypothesis* as Larson has argued. The next section elaborates this notion.

7.3 Single Complement Hypothesis & the Specifier/Subject

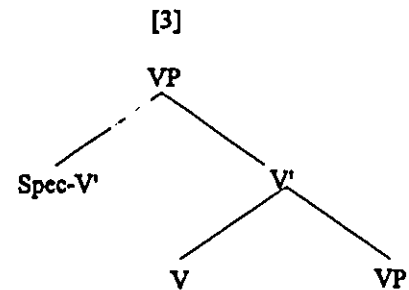
The model of X-bar structure given in (11) (from Stowell 1981) holds that a lexical category X defines a SpecX' position for the specifier or subject, a head or X and a finite string of complements.

11.a XP ----- > Spec X' X'

⁴Cattell (1984:61) claims that "a complex predicate is formed only when a predication noun is in the position of the head word of a noun phrase which is the 'direct object' of *make*". He then argues that parallel facts hold for the other CPs formed with *give*, *have*, *do*, *take*, etc. in English.

.b $X' \text{ -----} > X \text{ } YP^*$

There is a hierarchical asymmetry in (11) between the complements and the specifier position. The second asymmetry is a numerical one in that there can be more than one complement while the subject must always be single. This latter type of asymmetry loses weight with respect to the light use of *dād-an*, *give* and other LVs in MF and English as we saw above (Cattell 1984). In fact it is weakened in the use of *give* as a full verb as well, as we notice in the structure [1] where *give* and the *goal to*-phrase form a predicate phrase excluding the surface DO in the specifier position of the inner verb.



Chomsky (1986:3) allows multiple realizations not only for the complement in (11)/[3] but also for specifiers. However, he finds that the options for X' , i.e., the XP in Spec and complement positions in (11)/[3], are drastically limited, by theta-theory in the case of complements, contending that further possibility of phrase structure may be determined by fixing the parameters of case, and theta-theory, as well as by lexical properties. Following, Kayne (1984) who argues that the options for X' are zero or one, he claims that "in any event, the number of possible realizations of the X-bar schemata is finite, in fact small" (Chomsky 1986: 3).

In Chomsky (1993: 6) the basic relations in an X-bar diagram involve the head and two local relations as in [3]. However, the head complement relation is not only *more local*, or a *core local relation*, but also more fundamental-typically related to thematic relations; while the specifier-head relation falls into an *elsewhere* category.

Speas (1990), on the other hand, defines a theory of X-bar, namely *Project Alpha*, which

recognizes only a minimal and a maximal projection for a category (cf. Chomsky 1994) but allows free, and uninterrupted sequence of intermediate X nodes/levels, so that it does not encode any restrictions on the nonhead daughters (which are determined by other principles of grammar).

Larson's version of X-bar theory envisages structures with a single specifier as well as a single complement. This would yield a structure like [3], where X and the YP-complement in (11) are replaced by a Verbal head and a VP-complement. In [3], there is a structural asymmetry among the three levels of projection X, X', X'' and branching is binary at all levels. The three levels are distinct from each other. The single complement hypothesis follows from the unambiguous paths/projections (Kayne 1984) which requires that intermediate level, X', to be restricted to one for any given category. Multiple intermediate types (X') would be indistinct. The *single complement hypothesis* requires that the head-complement relationship be *biunique* (H&K 1993: 67-77; Larson (1988) (see Speas for a critical review of Larson).

In theory of *universal lexical categories* adopted in this study, not all lexical categories project identical X-bar structures. Rather they have, in fact, distinct syntactic features and projections (at LRS) and [3] is correct only for the lexical category verbs (cf. chapter 3). However, all categories still share a X⁰ and XP projections, depending on the syntactic environment (cf. Speas 1990).

The structural relationships in [3] illustrate a causal complementation relation in which a superordinate verb takes a VP as its sole complement and asymmetrically c-commands the head of its complement VP. This is the kind of relation associated with the English *give*, *put* in [1] above, the causative use of the verb *kard-an* in the final section of chapter 4, and the ergative alternation verbs like *break*, *open*, *thin*, *clear* as we saw in chapters 5 & 6 where the lower and higher VP represent a causative/transitive vs inchoative/unaccusative alternation.

In the case of *put* and *give* an inherently interrelational PP (denoting a predication relation between the object of the preposition, and its subject) functions as the complement of the inner VP in [3].

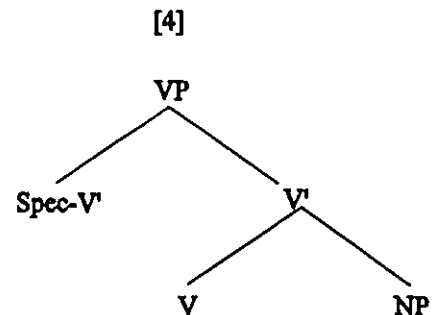
As for verbs like *thin* or *clear*, we claimed that the adjectives *thin* and *clear* are inherent predicates with a subject. We may assume that the adjectives either head a small clause or function as the complement of an abstract clause headed by an abstract copula. This clause may then be embedded within the inner inchoative VP in [3] and functions as its complement at LRS. The adjective then conflates into either the lower verb or the higher verb to form the inchoative or the causative verbs *thin* and *clear* respectively (see chapter 4, §4.1.4, for a detailed discussion of this option with respect to the verb *xoškid-an* "to dry" and *xoškānd-an* "to cause to dry" both derived from the adjective *xošk* "dry").

The fourth complement type is that of the lexical category noun exemplified by the unergative verbs (12) and the simple transitive verb (13) adopted from H&K (1993: 73). This is shown in [4] where an NP complement replaces the inner inchoative VP-complement of [3]:

12. The child laughed.

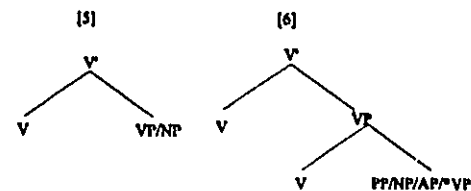
13. We had a good laugh.

In (13) an unrestricted, categorial variable *laugh* occupies the object position of the simple transitive *have*, the complement NP in [4]. In (12) a restricted constant LAUGH occupies the head of the NP complement in [4]. The constant conflates into the empty verb to form the verb *laugh* in English as we saw in chapters 3-4.



The specifier/subject positions in [3] & [4] have gone unnoticed so far. While the sentences in (12-13) and (1-2) have a subject in surface syntax, realized as an NP in Spec-IP positions, we have argued throughout this thesis that the elements belonging to the *universal, lexical category verb* are not predicates at LRS at l-syntax and hence do not require a subject at that level. Verbs are of the notional type (dynamic) events and are not subject to predication at the argument structure or LRS.

H&K (1991, 1993) argue that the specifier/subject of a lexical category is realized (at LRS) only if it is *forced* by predication. Following Chomsky (1986), they argue that the principle of *full interpretation* requires that categories be fully interpreted at all levels. Thus, it is unlikely that the



structures [3-4], where the verbs/VPs have a specifier/subject position, belong to the LRS representation. As a result [3-4] (also [1-2]) cannot be acceptable projections of the category verbs at LRS⁵.

Subjects/specifiers belong to the *residue domain* of the verbs and are required for checking the functional features at syntax. Lack of functional features and checking at LRS would make the appearance of the specifier positions redundant at the LRS. I conclude that the Spec positions in [3-4] are not part of the syntactic structure of the causative, simple transitive and unergative verbs at LRS.

I have merged [3] & [4] into [5] where the Spec/subject position is left out.

⁵ Chomsky (1993: 12) makes a formal distinction between the minimal complement domain of a head X and its minimal residue domain. The former is called the *internal domain* and the latter its *checking domain*. The elements of the internal domain of X are typically internal arguments of X, while the elements of the checking domain are typically involved in checking inflectional features and include the specifiers and adjoined elements. The checking domain is *heterogenous* and the *elsewhere set*.

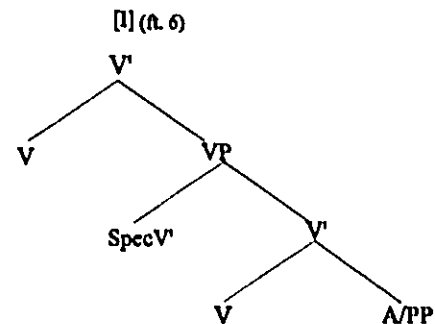
Given that no checking of functional features is involved at the level of LRS, we suggested (on independent grounds) that the lexical category verbs lack the residue domain (specifier position) at LRS. However, verbs may have the residue domain at s-syntax.

The NP argument in [5] corresponds to the LRS for unergative verbs (12), simple transitives like **kard-an**, its stylistic equivalents, and those uses of the verbs like **gereft-an** "to get" and **dād-an** "to give" (like the English example (5) and (10), and similar verbs (13)) that function as a simple transitive verb.

If the complement in [5] is VP then it will lead to a configuration like [6], a causative complementation structure, just like [3], excluding the specifier position. The higher V' is a causative verb and the inner VP is an inchoative/unaccusative verb of change of state, location, etc. The complement of the inner VP can only be a N, A, or PP but never another VP since this would lead to double causativization, which is generally undesirable. This is the type of relational structure we suggested for the causative use of the LVs **kard-an** (chapter 4, §4.1.4), **zad-an** (chapter 6), **dād-an** in MF which regularly alternate with some corresponding inchoative verbs shown by the inner VP in [6], ergative alternation verbs like *thin*, *break*, dative constructions [1-2], and location and locatum verbs in English. [5-6] illustrate lexical/syntactic relations defined by the category verb, be it a full or light verb, and are clearly associated with the *single complement hypothesis*. The diagrams [1-2] (and [3-4]) reflect the D-structure configurations in Larson where a specifier appears on a higher VP. They cannot reflect the LRS representations since the subjects would not be interpreted at that level⁶.

⁶I see no reason not to replace the inner VP in [6] with a V', just like the higher V' since both verbs belong to the notional category dynamic *event* and none has a specifier/subject position. H&K argue that the lower VP has a subject/specifier position not due to its own semantic or syntactic properties but rather due to semantic properties of its PP, or A complements which are inherently predicates and impose a specifier/subject position on the lower, inner inchoative VP as in [1] (in the text). I believe that this is unnecessary. While I agree with H&K (1991, 1993) that the categories PPs and As are predicates at the level of LRS and hence must have a subject by the principle of full interpretation at that level, I disagree with them that this requirement must be imposed on the inner VP making it show a specifier position. The inner verb takes a PP headed by a preposition, a subject and a complement. I believe that the whole PP functions as a single, stative small clause complement for the inner inchoative verb (see chapter 4, §4.1.1, diagrams [3-4] for an example of this type). The same is true if the complement of the lower, inner VP is an A. The former takes a single, stative small clause A as its sole internal argument (see chapter 4, §4.1.3, diagram [19] for an example). The subject of the PP or the A appears as the specifier of the embedded PP or adjectival small clause and not the lower verb. This then brings a uniformity between the lower and higher verbs if it is true that both are of the notional type dynamic event as H&K (1991, 1993) agree. [1] differs from [6] only

What happens to the subject of verbs through the syntactic stages of derivation before spell-out and PF is still a mystery in our theory of CP-formation. H&K argue that verbs behave as predicates in s-syntax because they occur in a temporal context and must receive a temporal reference. The temporal reference is structurally reflected by the functional projections (within IP) over the VP. The verb occurs within the TP to receive a T(ense)-value. Given that verbs inherently lack a subject/specifier position at LRS, I believe that subjects are not base-generated within VP during the syntactic computation (contrary to [1-4]). I assume with Chomsky (1993) that specifiers belong to the *residue domain* of a verb at syntax and follow recent work by Ghomeshi (1996) who suggests that subject of a verb occurs at the specifier of a P(redication) P(hrase) above VP in Persian.



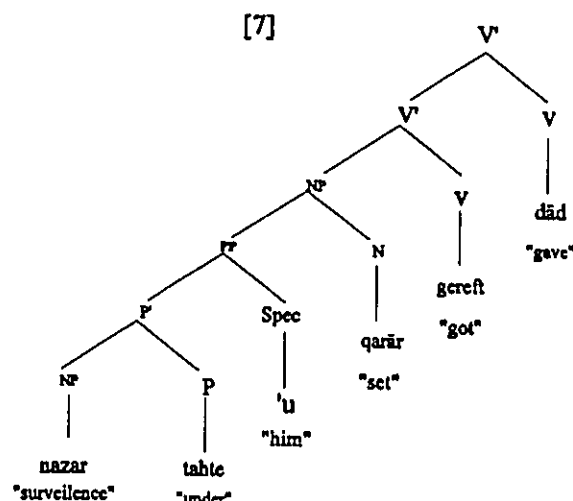
I close this chapter with the analysis of an alternating pair of recursive (double) CPs with **dād-an** "to give" and its inchoative alternant **gereft-an** "to get" that reflect the structure [6], without a VP-specifier, with a nominal PV complement which in turn subcategorizes for a PP complement. The CPs **qarār=dād-an** "to place, to set", and **qarār=gereft-an** "to be placed, to be soothed" are associated with the structure [6] where the nominal PV **qarār** "setting" is the complement of the inner VP. The nominal **qarār** "setting", by itself, subcategorizes for an interrelational PP complement as we see in (14-15) below:

14. Polis 'u-rā taht-e nazar qarār dād
 police him-RA under-EZ surveillance setting give.ps.3S
 The police put him under surveillance.

in the appearance of a specifier/subject position for the inner VP, (see also the discussion for [7-8].)

15. 'u taht-e nazar qarār gereft-an
 he under-EZ surveillance setting get.ps.3S
 He was put under the surveillance.

The syntactic relationship among the elements of (14-15) is shown in [7]. The higher VP corresponds to the causative LV *dād-an* "to give" and the lower VP to the unaccusative LV *gereft-an* "to get". Neither VP has a Spec (subject) position. The noun *qarār* "setting" functions as the single complement of the inner VP in [7] (cf. [6]). The nominal in turn

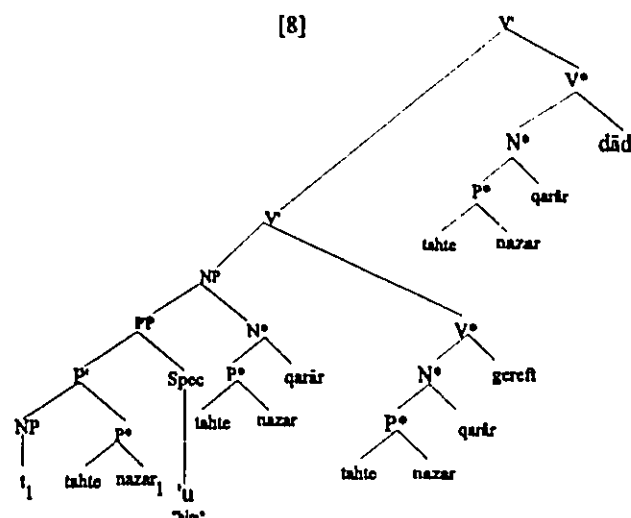


selects a (interrelational) PP as its single complement, [_{PP} 'u taht-e nazar] "he under surveillance". Both the nominal PV *qarār* "setting", and the P+NP count semantically as predicative phrases. On syntactic grounds they count as part of the V-bar and hence form a syntactic lexical integer by substantiating the LVs.

On the other hand, the syntactic configuration [7] has every property required for conflation, [8]. In [7-8] *taht-e* "under" is the head of the PP selected by *qarār* "setting". The complement of the preposition, i.e. *nazar* "surveillance" conflates into its head P forming P*. This complex in turn conflates into its own head, *qarār*, skipping the Spec position, forming N*. This complex then incorporates into any of the two dominating LVs to form the CPs in (14-15). Notice that in no case can the Spec position be conflated. The Spec, 'u "him", functions as the subject of the unaccusative LV in (15), the only desirable situation. The subject of an unaccusative verb can only occupy a VP-internal position in a syntactic configuration, as 'u "him/he" does in [7-8]. 'U also functions as the DO of the causative LV in (14), a perfect causative/inchoative or ergative alternation. The conflated heads

then behave as morphological objects and may enter into various derivational processes including CP-
INFs, i.e., *taht-e nazar=qarār=dād-an* "to put under surveillance", and *taht-e nazar=qarār=gereft-*
an "to be under surveillance".

The syntactic configuration in [7] also leads to the formation of a generalized lexical integer or phrasal CP when it occurs within the functional categories at s-syntax. The subject of the PP, 'u "him", moves either to the subject of the lower verb (15), or adjoins to the higher VP to function as the DO (14). Anything that remains within V-bar behaves as a phrasal



verbal predicate in MF. The configurations [7-8] clearly prefer [6], where the specifier of the inner VP is absent, to [I] of footnote (6), where according to H&K, the inner VP does have a specifier position. The subject of the PP, 'u "him", would have to appear as the specifier of the nominal *qarār* in [7-8] which would still leave the specifier of the inner VP empty.

In sum, our theory of syntactic relations opts for a single complement for the lexical category verb. It does not differentiate between the categorial features and syntactic relations characterized by a LV from those of its equivalent full verb. Both define identical syntactic relations and categorial features with a sole complement position and no specifier/subject at LRS and at syntax as in [5-6].

7.4 Concluding Remarks and Thesis Summary

CP-formation is a productive syntactic process of phrasal and morphological compounding

in Persian, that integrates principles, constraints and analyses from formal and lexical semantics as well as surface syntax. Although the combination of PVs and LVs exhibit the sort of lexical information and co-occurrence conditions ordinarily associated with (derived or compound) words and participate in derivational morphology, their status as syntactically atomic morphological objects is questionable: the pieces of CPs are separable in syntax when they behave as finite verbs/predicates. Finite CPs behave as phrasal constituents in syntax.

I have dealt with this double nature by showing that CP-formation in Persian is a productive syntactic process. Semantically, LVs induce existential interpretation and DR within V-bar; the PVs are predicative with a weak existential reading and enter into Predicate Modification with the LVs (Higginbotham 1987). Syntactically, the predicative PVs count as the single complements of the LVs and substantiate them within V-bar resulting in non-listed *generalized lexical integers* or phrasal CPs which have some of the properties of listed, lexically-formed words. These are subject to the *predication condition*. At the lexical and/or morphological level, on the other hand, the complex lexical items are represented in the format of X-bar theory in a way that is isomorphic to their syntactic categorial representation. This level is called *Lexical Relational Structure* (LRS): it is a lexical-syntactic level of argument and/or morphological structure as in Hale & Keyser (1991, 1993). The X-bar configuration of the PVs with respect to the LVs at LRS is isomorphic to their s-syntactic, X-bar relation. This configuration leads to conflation and grammaticalization of the CPs, and the formation of complex synthetic words that have properties of syntactic and morphological objects. I have also argued that both full verbs and their equivalent LVs have identical categorial and syntactic properties in that both select a single complement in the format of X-bar theory as in Larson (1988), and lack a subject or specifier position (H&K 1994).

I have argued that CP-formation is a s-syntactic process initiated at the syntactic, computational component, since it is constrained by the semantic, syntactic, and pragmatic/discourse principles relevant to this level, i.e., DR, semantic and syntactic, and morphological properties of the PVs and LVs. Only if the semantic requirements and the proper syntactic configurations at s-syntax are met so that a phrasal CP is formed within V-bar, will there be a parallel level of conflation and grammaticalization as well. That is, the direction of CP-formation is one from s-syntax to l-syntax and/or morphological structure so that the syntactic structure may be carried over to the latter level.

The only other option would be to assume that CPs are formed within the lexical or morphological component according to the principles applicable at this level (i.e., conflation at LRS, and/or formation of synthetic words as in DS&W 1987) leading to the formation of synthetic *morphological objects* or CPs that show morphological integrity as defined in chapter 1. However, when these synthetic CPs function as the finite predicates in sentences, they show properties of phrasal, maximal CPs, and lose their lexical integrity as we noticed in the preceding chapters. This would mean that when a lexically-formed word or CP, X^0 , is projected or inserted in syntax, it loses its lexical integrity and functions as an $X^{\max}$, phrasal item. This is a phenomenon that is highly improbable and totally unattested, to my knowledge.

I have argued that it is the other way round. Finite phrasal CPs at s-syntax are not projections of synthetic CPs formed at LRS. That is, CP-formation is a process from syntax to the LRS not a projection from the LRS to the syntax, as we also notice from impersonal, and passive constructions in MF.

The analyses, presented in this study, dispense with the theta-criterion (chapters 2-3), by dissociating subcategorization frame from theta-criterion, and theta-marking. The sole residue of the

projection principle has been to project the lexical items in the format of X-bar theory, what I have been referring to as their categorial features, not only in the computational system but also in the lexical component or l-syntax. Chomsky (1993: 6) proposes that "UG must provide means to present an array of items from the lexicon in a form accessible to the computational system. We may take this form to be some version of the X-bar theory. The concepts of X-bar theory are therefore fundamental". Chomsky (1993: 19) also claims that "a language consists of a lexicon and a computational system. The computational system draws from the lexicon to form derivations, presenting items from the lexicon in the format of X-bar theory."

Chomsky (1993: 1) argues that UG is a "theory of the initial state S^0 of the relevant component of the language faculty", and "specifies certain linguistic levels, each a symbolic system, often called a representational system" or an interface level (reduced to PF and LF in the minimalist program), the elements that constitute these levels, and the computations that construct these levels. The results of this study seem to suggest that an X-bar theoretic lexical or morphological component, that interacts with the syntactic component, might form part of our "integral and accessible" knowledge of lexical entries, and part of the *overt syntax* shared not only by PF and LF but also by the lexical component. That is, the X-bar schema as the core component of the symbolic systems specified by UG is relevant not only to the syntactic derivation, PF and LF but also to the lexical/morphological derivations and component.

If UG constitutes the core and inherent component of our language faculty, then it naturally follows that X-bar theory, as the core component and the initial state determined by UG, be symbolically represented in the lexical component and constitute an "integral and accessible" part of our language faculty. Then one may claim that the "computational system draws from the lexicon

to form derivations, presenting items from the lexicon" in a format determined by UG. This format is already shared by the lexical component and is accessible for the computational system , i.e., X-bar theory .

This study is compatible with the "Free Linking Hypothesis" in Ghomeshi and Massam (1994) in that it does not project syntactic and lexical information, including the argument structure information, of the finite CPs from the lexical domain to the syntactic domain. Rather it defines two isomorphic levels of syntactic X-bar relations and categorial features for the lexical categories in syntax and in the lexical and/or morphological structures. The *canonical object position* in Ghomeshi & Massam (1994) corresponds to the single complement position within V-bar, we defended for the lexical category verbs. The aspectual and categorial features of the LVs as in [5-6] form part of the syntactic relations they define in syntax. It is then reasonable to claim that, according to the Free Linking Hypothesis, each element is generated under its own proper node, a process which may be called juxtaposition within the categorial relations defined by the category verb in [5-6]. Juxtaposition generates the PVs in CPs in their canonical position, i.e., the single complement position of the head of the LV, within V-bar as sister to the head V^0 . The stress facts on which Ghomeshi & Massam (1994) base their analysis for the wordhood of the CPs are inconclusive in that elements of CPs, as finite verbal predicates of a clause within V-bar, are always separable from each other. The X^0+V^0 juxtaposition under a dominating V^0 node reflects aspects of the distribution and behaviour of the CPs when they function as morphological objects and syntactic words and not when they function as finite predicates of sentences which are phrasal.

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