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Non-Finites in Indian Languages

Amom Nandaraj Meetei

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ABSTRACT

When we have a non-finite verbal form (infinitive, gerund, participle), we need, according to the Extended Projection Principle, to posit a null subject, merging PRO. We then need to have two things such as two clauses and a non-finite form in the subordinate clause. And the two lexical verbs establish semantic restrictions on their subjects. The subordinate lexical V, a non-finite form in the subordinate clause must be an infinitive, a participle, a gerund or a conjunctive participle. This paper explores the materialization of non-finite particles and their characteristics of Indian languages. Under MTC, there is no PRO and only movement leaving a copy behind. This movement is caused by two factors such as to get (i) case and (ii) semantic role. If it is the very affair, we are compelled to assume that one element can have more than one semantic role. Nevertheless, an element with infinite semantic roles is not interpretable on the basis of limited memory we have and the kind of move-anything-to-anywhere premise is an overgeneration, I also suppose in the spirit of radical minimalism. This paper briefly travels around the data from Indian languages in terms of non-finite clauses.

Keywords: **Copy** **Movement** **Type** **Token-merge**

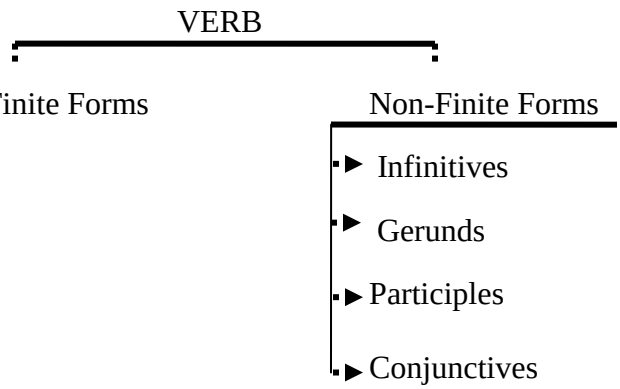
1.0 Introduction

Traditionally, verb forms are broadly classified into two major classes: the finite and non-finite forms. From the morphological points of view, the finite forms[1] are characterized by aspect, tense, mood, etc., as well as the concordial features of gender, number and person while the non-finite forms are typically

[1]Eilfort (1986) put forward three kinds of phenomena as criteria for non-finiteness: morphologically, the verb, or clause, lacks the TAM inflections or markers; syntactically, non-finite clauses are subordinate and unable to function as independent clause, with or without their complements; semantically, non-finite clauses have no independent tense, modal or aspectual interpretation, apart from that of the matrix clause. However, it can be said that morphological and semantic criteria can be collapsed into one when accounted for the Indian languages, where tense, mood and aspect are interpreted through the overt TAM inflections.

not marked for these categories. On the other hand, syntactically, finite forms structure independent clauses and these clauses have one and only one finite forms, whereas, non-finite forms occur predominantly in dependent clauses. This paper is concerned with the functions and forms of the non-finite verbs, which are further subcategorized into infinitives, gerund, participles and conjunctives (traditionally known as Adverbial Participles).

(1)



Quirk (1972: 724) defines non-finite clauses as "means of syntactic compression" in which the verb, as 'ing' or 'to infinitive', functions a predicate and the subject is omitted. It is the control phenomenon which can be defined as a relation of referential dependence between an unexpressed argument in an embedded clause (controlled argument) and an expressed or unexpressed argument (the controller) in a matrix clause (Bresnan 1982: 317).

(2) a. He likes to drink water.

b. They like to drink water

In the above sentences, the finite verb 'like' is governed by the person and number of the subjects 'He' and 'They' respectively and the finite verb 'to drink' does not change even though the person and the number of the subject gets changed. The understood subjects of the infinitive clauses 'to drink water' in both 2(a) & (b) are identical with the subjects of their main clauses, i.e., he and they. This paper is divided into four sections. The section 2 briefly explains the general agreement about non-finite clauses. Section 3 is the main section of the paper in which non-finite forms along with their characteristics in Indian languages are explored in such a way that infinitival construction in sub-section 3.1, gerundial constructions in sub-section 3.2, participial constructions in sub-section 3.3 and conjunctive participial clauses in sub-section 3.4 respectively in Indian languages are brought into discussion without incorporating much theoretical insight. This paper is just a slight touch on the topic viewing of which the researcher in the field may find it practical as regards to the data from Indian languages when analyzed

over the non-finite forms. The section 4 concludes the paper by reminding the literatures in earlier sub-parts in the paper.

2.0 Structure of Non-Finites at Logical Form

One general agreement about non-finite clauses is that at least one argument (the subject) can be covert at Phonetic Form, but visible at the level of Logical Form. This tells that all the non-finite complements will have 'subject' and predicates in any decent semantic representation. Hence, it has become imperative for the semantic to match up each predicate with its unexpressed subject, and therefore each semantic subject is represented in the syntax as a syntactic subject. This provides the following general considerations:

(3) a. Non-finites have phonetically empty subjects.

b. Non-finites are clauses.

Here arises a need for witnessing a syntax-semantic interface where semantic structure is actively transparent to syntax. Since every predicate in a clause has a subject, there is a one-to-one correspondent between subject and predicates in the following non-coordinate sentence.

(4) (i) ***Gujarati***

Ra:m Ra:van-ne PROi haravva mate PROi kos^{h}is^{h} karva iʧʧe

Rama Ravan-ACC defeat-INF for try do- INF want be.3 SM

'Rama wants to try to defeat Ravan'.

(ii) ***Manipuri***

məhak$_i$-nə thəbək-tu noŋmə-də PRO$_i$ loi-nə-bə PRO$_i$ hotnə-bə pam-mi

he-NOM work-DST oneday-DAT finish-INF try-INF like-DECL

'He wants to try to finish the work in one day'.

(iii) ***Odia***

se$_i$ dine Raamu-ku PRO$_i$ ma:ri-baa-ku PRO$_i$ ʧesta: kariba:-ku ʧa:h-e

he one day Rama-ACC beat-NMLZ- ACC try do- NMLZ- ACC want.3P

'He wants to try to beat Ramu oneday'.

(iv) ***Tamil***

avan$_i$ aval-ai oruna:l PRO$_i$ santikk-a PRO$_i$ muyarcci ceyy-a virump-in-aan

he he-ACC one day meet-INF try do-INF want-PST-3PM

'He wants to try to meet her oneday'.

In the above sentences 4(i-iv), each predicate has their corresponding phonetically empty subjects, which are co-referential with the subject arguments of the matrix clauses. In Gujarathi 4(i), each understood subjects of non-finite predicates *haravva* 'to defeat' and *kos^{h}is^{h} karva* 'to try' are identical with the subject of main clause, i.e., *Ra:m*. In Manipuri (4(ii), too, the empty subjects of the non-finite predicates *loi-nə-bə 'to finish'* and *hotnə-bə 'to try'* are identical with the subject of the matrix clause, i.e., *məhak* 'he'. In Odia 4(iii), too, the null subjects of each nominalized predicates, which are cased marked, are also identical with the matrix subject, i.e., *se* 'he'. Likewise, in Tamil (4(iv), non-finite verbs lack PNG markers and their empty subjects are identical with the subject of the main verb, which is inflected for tense, person and gender, i.e., *avan* 'he'. From this we can note that there is always a phonetically null subject (PRO) when there is no overt subject and this make us to think of the traditional pairing of a subject and a predicate.

3.0 Non-finite Forms

In most of the Indian languages, the embedded verbal part in non-finite clauses may take several forms depending upon the intended meaning.

3.1 Infinitival Constructions

The first non-finite form is the to-infinite form. In most of the infinitival constructions of Indian languages, the argument of the infinitive may or must be omitted if certain conditions of co-reference are fulfilled with a specified subject argument of the matrix verb as shown in (4) above. The infinitive is formed by adding infinitive markers to the verb stem. All these infinitive markers appear to represent the hypothesis and potentiality[2] in the sense of Bolinger (1986: 24). Let us see how the English infinitival construction is translated into different Indian languages.

(5) I like to go there

[2] Bolinger (1968:124) represents a line of thought that holds the infinitive to represent "hypothesis or potentiality", i.e., the sentence with the to-infinitive expresses a particular event whose performance is desired to take place in the future (therefore "hypothetical, whereas, the -ing form denotes "reification" in the general sense of actualization over same thing. Bolingere further illustrates the distinction between the to-infinite and the *-ing* form by making use of the following two sentences:

(1) a. Can you remember to do that?

b. Can you remember doing that?

As mentioned above, the sentence in (1a) expresses a particular event with future sense while the sentence in (1b) refers to an event that has already occurred (i.e., reification).

Assamese

moi	*tale*	*go-i*	*b^{h}al*	*pau*
I. NOM	there	go-INF	good	get

Bengali

ami	*sek^{h}ane*	*jete*	*ʧai*
I. NOM	there	go-INF	like-1S

Bodo

əŋ	*bəiyavə*	*t^{h}əŋnw*	*moj-əŋ*	*mono*
I	there-LOC	go-INF	good	get

Gujarati

mane	*tya*	*ja-vum*	*ʦe*
I.NOM	there	go-INF	be-1SM

Hindi

muj^{h}e	*waha:ñ*	*ja-na*	*pasənd*	*hai*
I-DAT	there	go-INF	like	be.PRE

Kannada

nanəge	*əlli*	*hog-əlu*	*iʂʧa*
I-DAT	there	go-INF	like-PRE

Konkani

m^{h}aka	*t^{h}ai*	*vachpak*	*avadata*
I.NOM	there	go-INF	like-PRE

Maithili

hum	*otay*	*ja:y-ab*	*pasin*	*karait*	*ʦi*
I.NOM	there	go-INF		like	do-PRE

Malayalam

enikku	*avide*	*pook-an*	*iʦtamaanu*
I-DAT	there	go-INF	like-DECL

Manipuri

əi	*mədu-də*	*cət-pə*	*pam-mi*
I	there	go-INF	ike-DECL

Nepali

malai tyaha ja:-nu man parʦa

I. NOM there go-INF like-1SM

Odia

mum' seʧ^{h}aku yi-baa-ku b^{h}ala pa:e

I there go-INF-ACC good get

Punjabi

mainum' o:thee ja-ña pasəm'da hai

I-DAT there go-INF like is-PRE

Tamil

na:n anke po:k-a virumpukireen

I- NOM there go-INF like-PST-3SM

Urdu

muj^{h}e waha:ñ ja-na pasənd hai

I-DAT there go-INF like be.PRE

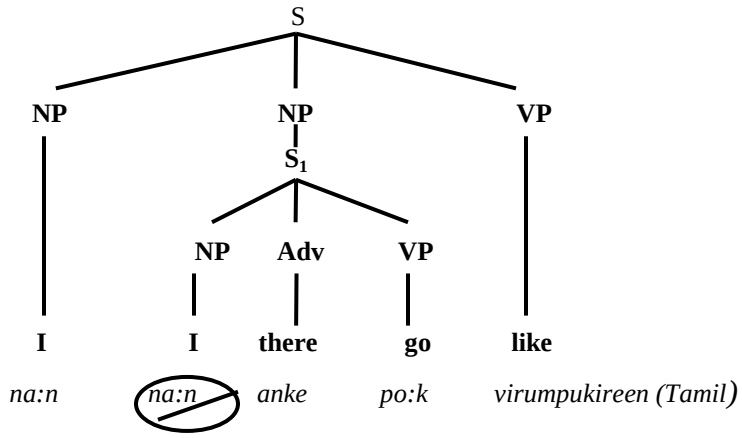
The infinitive marker 'to' as in 'to go' in English is used as a suffix in Indian languages, as shown in the table below. **TABLE**

Languages	**Infinitive Markers**
Assamese	***-i***
Bodo	*- nw*
Bengali	***-(i)te***
Gujarati	***-vum***
Hindi	***-na***
Kannada	***-al***
Konkani	***-pak***
Maithili	***-ab***
Manipuri	***-bə***
Malayalam	***-an***
Nepali	***-nu***
Odia	***-ba***
Punjabi	***- ña***
Tamil	***-a***
Urdu	***-na***

6. **Infinitive Markers in Indian Languages**

In fact, the so-called infinitive construction can be used only when the subjects of the two clauses are identical and the subject of the non-finite subordinate clause is omitted. To repeat the running idea, infinitive structures are characteristics of being deprived of finite verbs with marked forms that specify the number and person of the subject and the verb in terms of agreement (see examples in (4)). In this light, they are the manifestations of the non-finite verbs in which the specification of the subject-verb agreement cannot be accounted for and hence are considered as unmarked forms. In the early transformational generative grammar framework, the type of deletion under identity with the matrix clause is referred to as Equi-NP-Deletion. In its intuitive sense, Grinder (1970), Postal (1970) and Jackendoff (1972) all essentially assume that complement subject deletion can be treated uniformly for infinitives and gerunds while Partee (1972) deals only with infinitives. The examples given in (5) illustrate how Equi-NP deletion takes place and their underlying structure is given in (7) below where the NP deleted in the embedded sentence S_1 is marked.

(7)



In the structure above, the subj NP in S_1 is identical with the SubjNP in the matrix S, and it is deleted in the surface structure. The verb of S_1 is changed into an INFINITIVE in the surface structure. Additionally, the control constructions require the embedded verb to be in the infinitive form, i.e., *pook-a* 'to go' as a non-finite verb.

The function of the infinitival suffixes in the above table does not specify the finiteness. We assume that *-a* (in Tamil, for instance) can be a defective Infinitive marker, which further matches the fact that *-a* complement is either restricted or anchored with the matrix clause in control, in particular.

It is suggested that Tamil *-a* is either an irrealis or defective Mood/CP (see Amom, 2014 for Manipuri). This defective *-a* occurs only when the embedded clause is anchored by a matrix clause. The reason why

the term 'defective' is used is just for what this head -*a* does not have tense or finite structure and thereby cannot be assigned a truth value to them. Syntactically, controls predicates often select them in the embedded finite T. Infinitival morphology is underspecified for Tense and Agreement (Chomsky, 1991) and this infinitive is argued as tenseless (Wurmbrand, 2007). There is a change in the categorization of infinitival affixes and markers as reflected in the Minimalist Program (Chomsky, 1993, 1995, 2001) so that non-finite infinitival inflection lacks agreement properties, but has certain Tense properties. More particularly, infinitival affixes and markers are claimed to have non-finite Tense, and are able to check Case by virtue of their non-finite Tense properties. Boskovic (1996, 1997) argues that because control predicate s-selects irrealis, the embedded clause is therefore specified for tense and infinitive is able to check (null) case. All of them seem to agree that PRO is generated in the subject position of the infinitival complement. This entails that overt DPs are not licensed as infinitival subjects because PRO is the only element that can receive null Case. However, we know that category of the null infinitival subject may be PRO or a DP-trace. All these bits and pieces present a problem. It invites us to pursue the existing theoretical insight from another approach, the Movement Theory of Control (MTC), proposed by Hornstein (1999) and propped up by many other linguists (Hornstein, 2001, 2003; Boecks & Horstein, 2006; Polinsky & Potsdam, 2002a, 2002b, 2006). Hornstein (1999) accounts for obligatory control by assuming that a co111ntrol relation is established by the movement of an argument from one theta position to another. This asserts that one argument can bear more than one theta-roles (O'Neil, 1995; Lidz & Idsardi, 1998; Hornstein, 1999; Manzini & Roussou, 1999), as a by-product of eliminating the D-structure Criterion and Principle and Parameter of Projection (Polinsky & Potsdam, 2002a, p-265). Because D-structure is eliminated from MP, the number of theta-roles which were assigned to each argument is free from restriction, and consequently, for an argument to remerge into multiple theta-positions is, in that case, feasible. Hornstein (1999) further assumes that every theta-role is a kind of feature which needs to be checked off. As a result, an argument can merge or remerge to check off every theta-role of a verb. Such a remerge creates a chain in which all copies are co-referential to each other and hence establishing the relationship between controller and controllee in a control construction. Technically, under MTC, the highest copy, which represents for the controller, is phonetically spelled out and the lower is the PRO left by movement, which is zero spelled out at PF. What is concretely practical is that PRO is always bound by its higher antecedent because the lower copy is a trace of its antecedent (Boeckx & Hornstein, 2006, p-127; Boeckx, Hornstein & Nunes, 2010: p-46).

It is assumed that movement of an argument to multiple theta-positions is possible (Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2006; Polinsky and Postdam , 2002a, 2002b; Boeckx, Hornstein and Nunes, 2010), and there are two verbs whose theta-roles must be assigned to the argument in the above control construction. It is also assumed that EPP features are strong in v, which further promotes a concomitant argument to the edge, and the EPP feature in CP is defective or weak. Because of its inability to realize its own argument, the defective CP, the *-a* head triggers the NP in the Spec of vP to move out of the embedded vP. Let us illustrate the examples (7), rewritten as (8) along with it control construction in (9) and (10) below.

(8) *na:n*$_i$ *PRO*$_i$ *anke* *po:k-a* *virumpukireen*

(9) [IP *Actor*$_i$ *[anke* *PRO*$_i$ *pook-a]* *virumpukireen*

(10) [IP *na:n*$_i$ [vP ~~*naan*~~$_i$ [v'[CP ~~*na:n*~~ [C'[vP ~~*na:n*~~ *anke* *po:k-a*] *virumpukireen*]]]]]]

The two arguments in (8) above are base-generated in the embedded clause and the theta-roles of the embedded verb are discharged to these two arguments. The actor is promoted to the edge, the Spec of vP, because of the feature [+Actor] in v. The actor later remerges into the Spec of vP after the verb is merged into the structure. That means, when the [-Actor] in v triggers the involuntary actor to move further to the spec of vP, *-a* is compelled to be realized as defective. The actor, being the only argument in the matrix predicate, is further covertly raised to the matrix IP and is assigned the nominative case. And, the lower copies the argument leaves while remerging are deleted at PF (Nunes, 2004).

As regard to the interpretive properties that a control construction can have in terms of multiple θ-roles, we can, following Boeckx, Hornstein and Nunes (2010), have the example of (8) rewritten as (11) and its derivations in (12).

(11) *na:n* *anke* *po:k-a* *virumpukireen*

(12) a. Application of merge:
[*anke* *pook-a*]

b. Merger of '*na:n*' + assignment of 'liker' θ-role:
[*na:n*$^{\text{liker}}$ *anke* *po:k-a*]

c. Application of merge:
[I [*na:n*$^{\text{liker}}$ *anke* *po:k-a*] *virumpukireen*]

d. Movement of '*na:n*' + assignment of 'goer' θ-role:
[*na:n*$_1$$^{\text{liker+goer}}$ I [t$_1$ *anke* *po:k-a*]]

(13) *naan* (λx [x like x go there])

In (12b), there is an assignment of 'liker' θ-role to the DP *naan* and this moved DP in (12d) ends up being marked with two 'goer' θ-roles after moving to the thematic-subject positions of the matrix clause. The logical form given in (13) expresses the natural interpretation for the thematic relation which is encoded in (12d).

Boeckx, Hornstein and Nunes (2010), following Reinhart (1983) and Salmon (1986), consider the logical form in (13) as ascribing the property of liking oneself to go there. So they are semantically very different from structure where two distinct expressions have a dependency relation. In this way of analysing OC PRO as an A-trace, the MTC derives OC PRO's central interpretive features. In this manner, control is explicable under MTC. Under MTC, there is no PRO and only movement leaving a copy behind. This movement is caused by two factors such as to (i) get case and (ii) get semantic role. If it is the very affair, we are compelled to assume that one element can have more than one semantic role. Nevertheless, an element with infinite semantic roles is not interpretable on the basis of limited memory we have and the kind of move-anything-to-anywhere premise is an overgeneration, we suppose in the spirit of radical minimalism (Krivochen, Diego. & Peter Kosta. 2013).

Within RM, a derivation does not start with a Numeration, but with a pre-linguistic purely conceptual structure (CS). NUM contains types of the required element. These types are abstract element in the mental lexicon. A token is the each instantiation of that type we introduce in a derivation. The limit of mergeable tokens of a type is given by a *Conservative Principle*, which states that "*dimension cannot be eliminated, but they must be instantiated in such a way that they can be read by the relevant level so that the information they convey is preserved*". So, movement is not understood as literal displacement, but Remerge from NUM of a token in a position in which it obeys *Dynamic Full Interpretation*, which states that "*any derivational step is justified only insofar as it increases the information and/or it generates an interpretable object*" and optimally relevant in both interfaces, each with its own requirement. In this way, the operation *Remerge*, ultimately, *External Merge* is thus justified by interface requirement. Continuing so, movement and copy deletion/erasing is thus expressible in terms of *multiple occurrences of the same token* of an element, motivated by drastic interface effects. The standard case of Spell-Out of only one of the tokens can be elucidated in such a way that if we move an element (an argument NP), we should maintain the 'index' across the derivation by materializing only the copy whose structural position leads the system to optimal relevance. Let us consider the example given in (12) repeated as (14) below.

(14) a. *na:n anke ~~na:n~~ po:k-a virumpukireen*

b. *na:n anke na:n po:k-a virumpukireen*

The Spell-Out of (14a) is optimally relevant, since LF witnesses both occurrences of [*na:n*] as different tokens of the same type via con-indexation for explicature purpose. On the other hand, the Spell-Out of (14b) is only optimal relevant if disjunct reference is understood. Here they are considered two different tokens and hence no co-indexation takes place. Taking MTC into consideration, RM accounts for the fact that movement is remerge from NUM and PRO is actually a non-pronounced token of the 'moved' subject. As a requirement for drastic semantic interface, movement is explained as Token-Merge. This takes care of memory issues in terms of human limited computational capacity in minimalist perspective. This directly goes in tune with Ockham's razor that multiplication of entities only follows interface conditions, and the radicalism that conceptual necessity is defined by semantic requirement. However, we are not thrashing out the derivational history of such an insight here. We shall have small discussion on MTC and RM in the last section.

3.2. Gerundial Constructions

The second non-finite verb form is gerund, which is formed from a verb by adding the suffix *-ing*, e.g. playing, jumping, etc. in English. Gerunds display partly verbal and partly nominal characteristics[3]. In other words, it has two basic functions in a sentence: the verbal function and the nominal function.

Several linguists (Chomsky 1970, Abney 1987, Grimshaw 1980, Valoi 1991, Harley & Noyer 1997, Borer 1999, Alexiadou 2001) have specified contrastive properties of derived nominals and gerunds.

a. Derived nominals exhibit properties similar to a typical NP and they can take adjectival modification, but they do not have the ability of verbal case marking.

b. Gerunds have the properties of VP and they cannot take adjectival modification but take adverbial modification. They can assign accusative case to an object if present.

[3] We are supposed to analyze syntactic relations of the Gerund in the structure of Indian language sentences trying to explain what the syntactic relation is. We know that the constituent words of a sentence may belong to a certain part of speech. And, these parts of speech join together and denote a certain relation in the structure of Indian language sentences. The syntactic relation is of great significance in the structure of the most widespread type of sentences. One of them is Modifier-Modified Relation, that is, Modifier-Modified Relation expresses internal structural relation in a sentence. For instance, adverbs can modify a gerund while an adjective cannot so.

Considering (b) above, we intend to follow the linguists propounding the syntactic VP projection of verbal nouns (Valoi 1991, Borer 1993, Hazout 1995, Marantz 1997, van Hout & Roeper 1998, Fu, Roeper & Borer 2001, Borer 2005a, 2005b, Park 2008) within the exo-skeleton approach, and also argue that verbal nouns are categorially verbs not nouns and they can be embedded within nominalizing structures in which a derived nominal structure or a gerund structure gets surfaced. Following are some of the main factors:

(i) Adverbial modification (ii) Verbal Noun Stacking (iii) Constituent Structures

3.2.1 Adverbial Modification

According to Baker 1983 et., the verbal noun part is not syntactically visible within the complex predicate. Let us see the examples 15(a),(b) & (c) below:

(15) 'The enemy could destroy the village/fort completely'

Bodo

a.	*sut^{h}ura*	*gami-k^{h}wo*	*əbuŋwi*	*p^{h}wjwbsraŋnw*	*hagwo*
	enemy-NOM	village-ACC	completely	destroy-INF	can-PST
b.	**sut^{h}ura*	*gami-k^{h}wo*	*əbuŋ*	*p^{h}wjwbsraŋnw*	*hagwo*
	enemy-NOM	village-ACC	complete	destroy-INF	can-PST
c.	**sut^{h}ura*	*gami-ni*	*p^{h}wjwbsraŋnw*	*hagwo*	
	enemy-NOM	village-GEN	destroy-INF	can-PST	

Kannada

a.	*s^{h}atruvu*	*ko:ʈeyannu*	*pu:rʈiya:gi*	*d^{h}vamsagolisi-danu*
	enemy-NOM	fort-ACC	completely	destroy-INF can- PST-3S
b.	**s^{h}atruvu*	*ko:teyannu*	*pu:rti*	*d^{h}vamsagolisi-danu*
	enemy-NOM	fort-ACC	complete	destroy-INF-can-PST-3S
c.	**s^{h}atruvu*	*ko:teya*	*d^{h}vamsagolisu-danu*	
	enemy-NOM	fort-GEN	destroy- INF-can-PST-3S	

Maithili

a.	*dus^{h}əmən*	*gamkeM*	*sampurn rupsañ*	*tabah*	*ke delani*
	enemy-NOM	village-ACC	completely	destroy-INF	do-PST-3SM

b.	**dus^{h}əmən*	*gamkeM*	**sampurn*	*tabah*	*ke delam*
	enemy-NOM	village-ACC	complete	destroy-INF	do-PST-3SM
c.	** dus^{h}əmən*	gam-ka	tabah ke	delam	
	enemy-NOM	village-GEN	destroy-INF	do-PST-3SM	

Malayalam

a.	*s^{h}atruvi-nu*	*koʈʈarə-tte*	*puːrɳama-yum*	*nas^{h}ippikk-an*	*kaz^{h}iɳu*
	enemy-DAT	palace-ACC	completely	destroy-INF	can-PST
b.	** s^{h}atruvi-nu*	*koʈʈarə-tte*	*puːrɳama*	*nas^{h}ippikk-an*	*kaz^{h}iɳu*
	enemy-DAT	palace-ACC	completely	destroy-INF	can-PST
c.	** s^{h}atruvi-nu*	*koʈʈarə-tte*	*nas^{h}ippikk-an*	*kaz^{h}iɳu*	
	enemy-DAT	palace-GEN	destroy-INF	can-PST	

Manipuri

a.	*yeknəbə-nə*	*konuŋ-du-bu*	*loyna*	*maŋ-takhən-bə*	*ŋəm-k^{h}ə-re*
	enemy-NOM	fort- DST- ACC	completely	destroy-NMLZ	can-CERT-PERF
b.	**yeknəbə-nə*	*konuŋ-du-bu-bu*	*ərobə*	*maŋ-takhənbə*	*ŋəm-k^{h}ə-re*
	enemy-NOM	fort-DST- ACC	complete	destroy- NMLZ	can-CERT-PERF
b.	** yeknəbə-nə*	*konuŋ-gi*	*maŋ-takhən-bə*	*ŋəm-khə-re*	
	enemy-NOM	fort-GEN	destroy- NMLZ	can-CERT-PERF	

Tamil

a.	*ediri*	*aranmanaiyai*	*muluvadumaka*	*alikk-a*	*mudindadu*
	enemy-NOM	palace-ACC	completely	destroy-INF	can-PST-3SM
b.	**ediri*	*aranmanaiyai*	*muluvadum*	*alikk-a*	*mudindada*
	enemy-NOM	palace-ACC	complete	destroy-INF	can-PST-3SM
c.	**ediri*	*aranmanai-yai*	*alikk-a*	*mudindada*	
	enemy-NOM	palace-GEN	destroy-INF	can-PST-3SM	

The verbal nouns take an adverb as in 15(a) examples and can't take an adjective as shown in 15(b) examples. And, the syntactic incorporation account predicts that the verbal noun, as a noun, can take a genitive argument as its complement, but the finding the fact is contradictory to the prediction as shown in 15(c) above. This shows that the verbal noun part of complex predicate is syntactically not visible,

and hence the assumption that verbal nouns are nouns is incorrect. Hence, verbal nouns are actually verbs and they take their arguments simply because they are verbs (Park 2008).

3.2.1 Verbal Noun Stacking:

As an evidence for the existence of syntactic VP, verbal nouns also exhibit verbal properties such as assigning accusative case to their arguments and licensing adverbial modification. It so happens when one verbal noun follows another verbal noun, i.e., verbal noun stacking, a bare verbal noun shows the ability to assign accusative Case similar to a verb, as shown in (16) below:

(16) The complete support that Hajari investigated the corruption had been appreciated

Kannada

hajareyəvəru

Hajare-NOM

[[$b^hrəs^hT^h$əcharəvən-***nu*** *tanik^{h}e maDuvudən]-**nu*** [***pu:rtiyagi*** *ettihiDiyuvudən*]-***nu***]

corruption-ACC investigate do-GER-ACC completely support-GER-ACC

meccalpaTTitu

appreciate-PST-3SM

Manipuri

Hajari-nə

Hajari-NOM

*[[kərəpsən-**bu*** *t^hizinbə*]-***bu*** ***məpuŋp^{h}anə*** *səugətpə*]-***bu***]

corruption-ACC investigate-NMLZ-ACC completely supporting-NMLZ-ACC

t^hagətk^{h}i

appreciate-CERT-DECL

In (16) above, the verbal noun for 'investigation' such as *tanik^{h}e maDuvudən* in Kannada *and t^hizinbə* in Manipuri assigns accusative case on *$b^hrəshT^h$əchaArəvən* in Kannada and *kərəpsən* in Manipuri for 'corruption'. The verbal noun *ettihiDiyuvudən* in Kannada *səugətpə in Manipuri for* 'supporting' licenses the modification by the adverbial *pu:rtiyagi* in Kannada and *məpuŋp^{h}anə in Manipuri for* 'completely'. Since there is no intervening light verb to support the verbal nouns to take verbal

properties and it obeys the Head-to-Head movement constraint (HMC), it signals the presence of a syntactic VP element.

3.2.2 Constituent Structures:

Following examples show that gerunds can be explained as derived nominals from the constituent relations.

< Topicalization >

(17) ***Bodo***

a. **[pʰwjwbsraŋnw]-tʰo* *sutʰura* *gami-kʰwo* *hagwo*
destroy-INF-TOP enemy-NOM village-ACC do-PST

b. *[gAmi-kʰo* *pʰwjwbsraŋnw]-tʰo* *sutʰura* *hagwo*
village-ACC destroy-INF-TOP enemy-NOM did-PST

Maithili

a. **[təbah]-toM* *dusʰəmən* *gamkeM* *ke delani*
destroy-INF-TOP enemy-NOM villahe-ACC do-PST-3SM

b. *[gamkeM* *təbah]-toM* *dusʰəmən* *ke delani*
village-ACC destroy-INF-TOP enemy-NOM do-PST-3SM

Manipuri

a. *[*maŋnə-bə]-di* *yeknəbə-nə* *kʰuŋgəŋ-bu* *təukʰi*
destroy-NMLZ-TOP enemy-NOM village-ACC do-CERT-DECL

b. *[kʰuŋgəŋ* *maŋnə-bə]-di* *yeknəbə-nə* *təukʰi*
village-ACC destroy-NMLZ-TOP enemy-NOM do-CERT-DECL

< Scrambling >

(18) ***Bodo***

a. **[pʰwjwbsraŋnw]-kʰo* *sutʰura* *gami-kʰwo* *hagwo*
destroy-INF-ACC enemy-NOM village-ACC do-PST

b. *[gami-kʰwo* *pʰwjwbsraŋnw]-kʰo* *sutʰura* *hagwo*

village-ACC destroy-INF-ACC enemy-NOM do-PST

Maithili

a. **[təbah]* *dus^{h}əmən* *gam-keM* *ke delani*
destroy-INF enemy-NOM villahe-ACC do-PST-3SM

b. *[gam-keM* *təbah]* *dus^{h}əmən* *ke delani*
villahe-ACC destroy-INF enemy-NOM do-PST-3SM

Malayalam

a. **[nas^{h}ippikk-an]* *s^{h}atruvi-nu* *grama-tte* *kaz^{h}iṇu*
destroy-INF enemy-DAT village-ACC can-PST

b. *[grama-tte* *nas^{h}ippikk-an]* *s^{h}atruvi-nu* *kaz^{h}iṇu*
village-ACC destroy-INF enemy-DAT can-PST

Manipuri

a. **[maŋnə-bə]-bu* *yeknəbə-nə* *k^{h}uŋgəŋ-bu* *təuk^{h}i*
destroy-NMLZ-ACC enemy-NOM village-ACC do-CERT-DECL

b. *[k^{h}uŋgəŋ-bu* *maŋnə-bə]-bu* *yeknəbə-nə* *təuk^{h}i*
village-ACC destroy-NMLZ-ACC enemy-NOM do-CERT-DECL

I follow Park (2008) in that the theme argument *gami* (Bodo), *gam* (Maithili), *grama* (Malayalam) and *k^{h}uŋgəŋ* (Manipuri) for 'village' and the verbal noun *p^{h}wjwbsraŋnw* (Bodo), *təbah* (Maithili), *nas^{h}ippikk-an* (Malayalam) and *maŋnəbə* (Manipuri) 'destruction' form one single constituent DP. Since movement should observe a constituent structure, the ungrammaticality of each (a) sentence obtains a straightforward account. Hence, each (b) sentence should be grammatical as it observes a constituent structure. This shows that verbal noun phrases can be analyzed as derived nominals or gerunds and such prediction is done through the movement operations such as topicalization or scrambling.

3.3 Participial Construction

The third non-finite verb form is participle, which is formed from a verb by adding the suffix '*-in*g' in English. The relative participles function as adjectives. They operate as a modifier of the substantive.

(19) a. I saw a crying boy.
b. crying is lamenting.

In 19(a) the word 'crying' functions as an adjective modifying the head noun 'boy' while it functions as gerund in 19(b) being the subject NP of the sentence. They differ in substantial aspects. The gerund does not form a progressive. Furthermore, the gerund assumes the syntactic function of the substantive, and as such it can appear in the role of the subject, object and complement. At the same time, the gerund retains the characteristic of a verb, and so it may take a direct object plus it may be modified by an adverb as shown in (15) above. The participle, on the other hand, appears in the syntactic function of adjectives and adverbs, which will be main concern for the next sub-section. In general, the participles actually entail various conjunctions and are of a very effective cohesive device. In contrast, the gerund is rather sentence-oriented via head-complement relation and displays limited cohesive properties.

Since participles belong to categories which are both nominal and verbal, we take that participles are fashioned in the syntax by embedding a verbal structure under a nominalizing participial node (PTCP), which is endowed with nominal features (N-features). We take to mean the N-features of the participle as the essence of its non-finite nature. In most of the Indian languages, participles play the role of nominal modifiers. Participles are formed by adding the same marker as used in infinitive and gerund construction. The suffixes- *-nai* (Bodo), *-a* (Kannada), *-a* (Malayalam), *-bə* (Manipuri) and *-a* (Tamil) etc. play the role of a 'PTCP marker' and this morpheme[4] is found suffixed to the verb inflected for Tense/Aspect/Mood.

One defining feature of this morpheme is that a full-fledged nominal element has to obligatorily follow it. The following examples from different Indian languages show this fact.

(20) Rama plucked the flower that Sita saw.

Bodo

Rama	*Sita*	*nu-k^{h}aŋ-nai*	*bibar-k^{h}wo*	*k^{h}a-bai*
Rama-NOM	Sita-NOM	see- PST-PTCP	flower-ACC	pluck-PRF

Kannada

Sitanu	*no:ḍid-a*	*hu:vən-nu*	*Rama-nu*	*kitta-nu*
Sita-NOM	see- PST- PTCP	flower-ACC	Rama-NOM	pluck-PST.3SM

Malayalam

[4] See Annamalai (1997:46) who claims that the Tamil suffix '-a" can be taken as the adjectival participle suffix. He maintains the strategy that adjective clause is meant to be in terms of the semantic relationship between an adjective clause and its noun. Annamalai claims alleges that the adjective clauses (in Tamil) are derived from sentences and the case of relationship between the adjectival clauses and their head noun is the same as the case relationship of the relativized noun with the finite verb in the underlying sentence.

Sita	*kaɲʈ-a*	*pu:vu*	*Ramən*	*pariccu*
Sita	see- PST-PTCP	flower-ACC	Rama-NOM	pluck-PST

Manipuri

Ram-nə	*Sita-nə*	*u-k^{h}i-bə*	*ləi-du*	*hek-ləm-mi*
Rama-NOM	Sita-NOM	see-CERT- PTCP	flower-DET	pluck-EVI-DECL

Tamil

Sita	*pa:rtt-a*	*puuv-ai*	*Ramən*	*pa:rtta:n*
Sita-NOM	see-PST-PTCP	flower-ACC	Rama-NOM	pluck- PS -3SM

From the examples in (20) above, it is seen that there is no discernible relative pronoun which is available in canonical relative clauses. These participle constructions seem to modify a given noun phrase; henceforth, we employ the basic definition of a participle that a participle is a verb that is used to modify a noun. The kind of elements introducing the relative clauses varies from language to language. In English, for example, relative pronouns are in the cased-forms and derived historically from case-marked interrogative pronouns such as *who*, *whom*, *when*, etc. (Givón 1993: 126). What can be seen here is that the above participial constructions are clausal since they contain subjects of their own. So we may term such constructions as Participial Clauses (PTCPP). Some of the salient properties the participial marker each language has can be laid down as follow:

(a) It does not agree with the NP which it modifies in terms of person, number and gender and case (i.e., the case agreement between the PTCP marker and the head noun, showing that the PTCP marker is always same for any NP,

(b) It can't be, being a suffix, utilized as a personal or interrogative pronoun as in the case of the so-called relative pronouns in English and

(c) It is compulsory and hence the sentence will be ungrammatical when deleted.

The following examples put in the picture that participial elements cannot stand independently without their head nouns. This inculcates the idea that the PTCP morpheme has some feature that seeks validation from a nominal element, which demands a closer look at the feature connected with it.

(21) ***Bodo***

nu-k^{h}aŋ-nai	**(bibar-k^{h}wo)*
see- PST-PTCP	flower-ACC

Kannada

no:ḍid-a	**(hu:vən-nu)*

see- PST- PTCP flower-ACC

Malayalam

kaɳţ-a **(puuvu)*

see- PST-PTCP flower-ACC

Manipuri

u-k^{h}i-bə **(ləi-du)*

see-CERT- PTCP flower-DET

Tamil

pa:rtt-a **(puuv-ai)*

see-PST-PTCP flower-ACC

Under minimalism, syntactic operation Agree is considered an operation between a probe and a goal in such a way that the probe which carries some uninterpretable and unvalued formal feature searches down in its c-comman domain for a goal which carries a matching interpretable and valued formal feature (Chomsky 2000, 2001). Departing from the insight of features as interpretable vs. uninterpretable developed in the Derivation by Phase/Minimalist Inquiries (Chomsky 1999, 2000), Pesetsky & Torrego (2007), adopting Chomsky's distinction between LF interpretability, argue that if (un)interpretability and (un)valuedness are taken to be independent notions; actually, four kinds of features must be distinguished in the following way:

(22) Types of feature (boldface = disallowed in MI/DbP)

uF val **uninterpretable, valued**		*iF val*	interpretable, valued
uF []	uninterpretable, unvalued	***iF []***	**interpretable, unvalued**

Pesetsky and Torrego (2004) claim that Agree is valuation operation in form of 'feature sharing' (Frampton and Gutmann 2000) in line with the view of agreement as feature unification common in HPSG (Pollard and Sag 1994) and that Agree is possible if either of goal or probe contains unvalued feature.

(23) **Agree (Feature sharing version)**

(i) An unvalued feature F (a probe) on a head H at syntactic location α (F_{α}) scans its c-command domain for another instance of F (a goal) at location β (F_{β}) with which to agree.

(ii) Replace F_α with F_β, so that the same feature is present in both locations.

The ungrammaticality of examples in (19) shows that the feature description of the PTCP markers in each languages would be an interpretable but unvalued feature, i.e, [iφ unvalued], which acts as a probe to get valued. Pesetsky (2005) argued that within C-layer of relative clauses, there is a single feature *iQ* [] on C- interpretable but unvalued - which acts as probe and receives its value from an uninterpretable counterpart *uQ* on a wh-phrase. This tells that C-layer of RCs has unvalued φ-features, different from declarative C but similar to adjectives in lacking valued φ-features of its own. In this similar fashion, PTCPs in the above Indian languages exhibits the same syntactic property that the suffix *-bə* (Manipuri, for instance) is the morphological manifestation of [iφ unvalued] and if the unvalued φ-features remain unvalued, the derivation crashes as the ungrammaticality of examples in (19) shows.

Within Minimalist framework (Chomsky 2004), participles are treated as lacking person feature, i.e., participles have a defective T. Such defective T pertaining to a participial construction makes a participial impossible to assign Nominative Case and thus to license a nominal in the subject position.

> *With defective probe, agreement is not manifested and Case of the matched goal is not assigned a value: raising T exhibits no agreement, and participles lack person*
>
> *DbP Chomsky(2004)*

Within minimalism, the operation Merge is the most basic syntactic operation. There are two kinds of Merge: set-merge, which introduces arguments, and pair-merge, which introduces adjuncts. Pair-Merge is inherently asymmetric - if the operation of Pair-Merge adjoins α to β to form {Γ,< α, β >} , we can conclude that β projects i.e. Γ = label(K) = label(β) (Chomsky 2004). This contrasts with Merge, which is symmetric and forms binary sets. These sets are called *simple* syntactic objects.

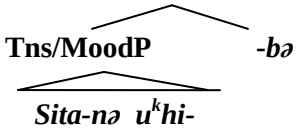
The syntactic objects generated by Merge must be mapped to the interfaces: the Conceptual-Intentional Interface and the Sensorimotor Interface. The operation that does this mapping is called Transfer (see Chomsky 2004: 107). A pair-merge is not visible to the narrow syntax (NS) and hence β behaves in the narrow syntax as if it were a simple structure at SEM interface where the operation SIMPL (=simplify) converts the ordered pair, < α, β > to {α, β}. Chomsky argues, "*since SIMPL applies at the stage of the derivation which Spell-Out applies, it is also in effect part of Spell-Out […] that is part of the operation TRANSFER*". It is also supposed that SIMPL is optional. And overt and covert movement is defined on the basis of the ordering of TRANSFER and Move. In the case of covert movement, with the ordering TRANSFER-Move, Spell-Out applies and therefore SIMPL feeds adjoined elements as well. Behind this

line of reflection and adopting the standard analysis of adjunction (Chomsky 1977) on relative clauses, we consider that participial clauses (PTCPP) are pair-merged to the head noun. The matrix clause and the participial clause are built in parallel through parallel computation.

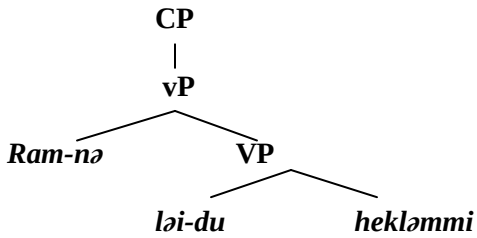
(24) ***Manipuri***

Ram-nə	*Sita-nə*	*u-k^{h}i-bə*	*ləi-du*	*hek-ləm-mi*
Ram-NOM	Sita-NOM	see-CERT- PTCP	flower-DET	pluck-EVI-DECL

(25) a.

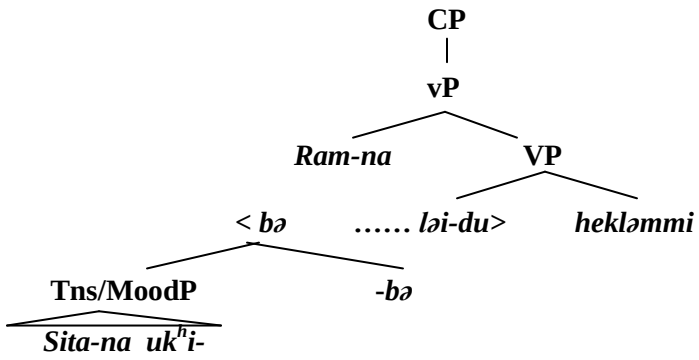


b.



Since a PTCPP lacks full argument structure, it is a weak phase. So, the matrix CP is the strong phase in the workspace. However, all the syntactic objects (SO) in the given workspace have to be turned into a unique SO when the strong phase is reached and Spell-Out is applied. At this time, all the other SOs are to be integrated through the application Merge. In this manner, Spell-Out or TRANSFER has to apply once the derivation reaches the matrix CP. As observed above, the PTCPP still has [iφ unvalued] features, and such survival of unvalued feature can result in a deviant derivation. Therefore, the PTCPP *u-khi-bə* is pair-merged to the head noun phrase *ləi-du* in the matrix clause by the time the strong phase CP is reached. In this way, we externally pair-merge PTCPP to the matrix CP and it is always CP that projects. Chomsky has suggested (2004) that adjuncts are assembled in a parallel derivational space, and then introduced in the main tree via a generalized transformation, which simplifying, introduces a whole tree in another as shown below:

(26)



Now, the operation SIMPL converts an adjoined structure [<*a*, *b*>] to a set Merged structure [{*a*, *b*}], which participates in structural relations as any set merged phrase does. The unvalued features are valued at this point and the derivation converges. That is, the operation SIMPL transfers the NS

derivation to both [PHI, the phonological component] and [SIGMA, the semantic component] (Chomsky, 2001, p. 16). On the other hand, if we follow the basic tenets of Radical Minimalism (Krivochen 2011a et. seq) and (Kosta and Krivochen (2011), there is only one generative operation-Merge, which is free, "blind", unbounded, being insensitive to the inner characteristics of the objects it manipulates; and extend the thesis of Boeckx (2010a) that only common format is relevant and an operation Transfer provides us with a way of delivering structured information across modules. Since the PTCPP and the head noun share a common format, i.e., Adjective/Participle take a nominal as a Figure, being Ground themselves in Talmy's (2000) terms. They are put together in the working area of a determined module. As Krivochen and Kosta (2013) claims, in a dumb (i.e., blind and free) syntax, there are no syntactic constraints, so there are no points in positing feature-driven operations. What is to be essentially noted is that Merge applies since PTCPP and the head noun share a common format, and relevant interfaces take the upshot of structure-building operations as soon as the structural configurations, the CP and vP phases are fully interpretable. We are just throwing a slight view on the basis of radical minimalism.

3.4. Conjunctive Participial Constructions

Morphologically, conjunctives (traditionally known as adverbial participles) are distinct from the main verbs, being characterized by distinct overt morphemes. Syntactically, subordinate clauses are adjuncts. They are of dependent verb forms occurring in conditional, purposive or a reason clause. Semantically, their roles are to provide the expression of adverbial modification of manner and conjoining of series of events which are usually anterior to or simultaneous with the event expressed by the main verb (cf. Haspelmath 1995; Haspelmath and König 1995). In most of the Indian languages, a conjunctive construction is followed by a main verb.

(27) Having eaten the meal, he went to school.

Assamese

bʰat	*kʰa-i*	*xi*	*skuloloi*	*gole*
rice	eat-CNP	he	school-LOC	go-PST

Bodo

oŋkʰamə	*jananwi*	*biyo*	*pʰərayəsaliyavə*	*tʰəŋbayə*
rice	eat-CNP	he-NOM	school-LOC	go-PERF

Gujarati

kʰavənu	*kʰaine*	*Te*	*school-e*	*gəyo*

meal eat-CNP he.NOM school-LOC go-PST

Kannada

uTa ma:Dutta avənu s^{h}alege hOdənu

meal eat-CNP he.NOM school-DAT go-PST

Konkani

jevən jevən-a to s^{h}ələt gelo

meal eat-CNP he school-LOC go-PST

Maithili

k^{h}enay k^{h}ayke o pat^{h}shalə ʧəli gelah

meal eat-CNP he.NOM school-LOC go PST-3P

Malayalam

uunu kazhic-cu avən skuul-il po:yi

meal eat-CNP he school-LOC go-PST

Manipuri

cak ca-dunə məhak iskul-də cət-k^{h}i

rice eat-CNP he school-LOC go-CRT-DECL

Nepali

k^{h}ana k^{h}a-dai u iskul gə-yo

rice eat-CNP he school go-PST

Oria

b^{h}atə k^{h}ai se skuləku gəla

rice eat-CNP he school-LOC go-PST

Punjabi

k^{h}ana k^{h}a ke uha skulə gia

food eat-CNP he school go-PST

Tamil

cappəTu ca:ppi-TTu avən pəllikkuc cenRan

meal eat-CNP he school- DAT go- PST

Urdu

k^{h}ana k^{h}a ke/kər woh Iskul gaya

rice eat PRT he scool go-PST

The following table shows the conjunctive paradigm of the verb 'go' in Indian languages, where different suffixes provides different semantic roles in terms of adverbial modification of manner and events anterior to or simultaneous with the event expressed by the main verb.

(28) **Paradigm of the verb 'go' in Indian languages**

Language	Converb	Perfective	Imperfective
Assamese	***kʰa-i***	***kʰai-pelai***	***kʰaunte***
Bodo	***jananwi***	***jakhaŋnanwi***	***janayəo***
Gujarati	***kʰaine***	***kʰa-dha***	***kʰata kʰata***
Kannada	***ma:Duttə***	***ma:DIdə***	***ma:Dutta***
Konkani	***jevən-a***	***jevlyə***	***jevtana***
Maithili	***kʰayke***	***kʰelak bad***	***kʰeba kal***
Malayalam	***kazhic-cu***	***kazhic-ittu***	***kazhikkunnatʰin-itayil***
Manipuri	***cət-tunə***	***cət- ləga***	***cət-liŋəidə***
Nepali	***kʰa-dai***	***kʰaye-pachi***	***kʰadaithyo***
Oria	***kʰai***	***kʰaiki***	***kʰauthilabeLe***
Punjabi	***kʰa ke***	***kʰañ to bad***	***kʰañdia haia***
Tamil	***cappi-TTu***	**cəppi-TTəpirəku**	***capiTum-po:tu***
Urdu	***kʰa ke/kər***	***kʰa ke/kar***	***kʰate kʰate***

As mentioned in section 3.1 above, control is a relation of interpretation dependency between the argument in matrix clause and the other argument in the subordinate clause. One prevalent assumption in the generative literature is that control is a relation of coreferentiality between an overt NP in a higher (matrix) clause and a silent NP in a lower (subordinate). The following examples show the verity.

(29) [*Matrix Clause* Rama$_i$ likes [*Subordinate Complement* PRO$_i$ to win]]

(30) [[*Matrix Clause* Rama$_i$ went] [*Subordinate Adjunct* without PRO$_i$ informing them]]

However, we follow the typological patterns of control in (15) below (Polinsky and Potsdam 2006: 174), where the silent NP is symbolized by Δ.

(31) a. ***Forward Control***

[*Matrix Clause* NP$_i$ … [*Subordinate Clause* Δ$_i$ …]]

b. ***Backward Control***

[*Matrix Clause* Δ_i … [*Subordinate Clause* NP_i …]]

c. ***Copy Control***

[*Matrix Clause* NP_i … [*Subordinate Clause* NP_i …]]

As shown above, only the matrix NP, while the subordinate subject is implied, is pronounced in Forward Control, (31a) (cf. Chomsky 1965; Rosenbaum 1967). In Backward Control, (32b), (cf. Kuroda 1965, 1978 for *Japanese*; Polinsky and Postdam 2002 for Tsez; Polinsky and Postdam 20023for *Malagasy*; Monahan 2003 for *Korean*; Haddad, 2010 for *Assamese*; Subbarao 2004 for *Mizo*, *Telugu*, and *Assamese*) only the subordinate NP is pronounced, while the matrix subject is implied. Both the subject NPs are pronounced in Copy Control, (32c), (cf. Chung 1978 for *Tongan*; Lee 2003; Boeckx, Hornstein, and Nune 2007 for *San Lucas Quiaviní Zapotec*; Haddad 2009a for *Telugu*; Haddad, 2010 for *Assamese*).

4.1 Forward Control in Indian languages

Most of the Indian languages exhibit the phenomenon of Forward Control. The following examples are the instances of Forward Control in the sense that the matrix subject is pronounced and it also determines the identity of the silent conjunctive participial (henceforth CNP) subject. Some of the examples in (26) are repeated below by showing the control relation through the symbol Δ standing for silent subjects.

(32) ***Bodo***

[$\Delta_{i/*k}$	*oŋkʰamə*	*jananwi]*	*biyo$_i$*	*pʰərayəsaliyavə*	*tʰəŋbayə*
	rice	eat-CNP	he-NOM	school-LOC	go-PERF

Kannada

[$\Delta_{i/*k}$	*UTa*	*ma:Dutta]*	*avənu$_i$*	*sʰa:lege*	*hOdənu*
	meal	eat-CNP	he.NOM	school-DAT	go-PST

Malayalam

[$\Delta_{i/*k}$	*u:ɲu*	*kazhic-cu]*	*avən$_i$*	*sku:l-il*	*po:yi*
	meal	eat-CNP	he.NOM	school-LOC	go-PST

Manipuri

[Δ$_{i/*k}$	*cak*	*ca-dunə]*	*məhak-nə$_i$*	*iskul-də*	*cət-k^{h}i*
	rice	eat-CNP	he-NOM	school-LOC	go-CRT-DECL

Nepali

[Δ$_{i/*k}$	*b^{h}at*	*k^{h}a-dai]*	*u$_i$*	*iskul*	*gə-yo*
	rice	eat-CNP	he.NOM	school	go-PST

Tamil

[Δ$_{i/*k}$	*cappəTu*	*ca:ppi-TTu]*	*avən$_i$*	*pəllikkuc*	*cenRan*
	meal	eat-CNP	he.NOM	school- DAT	go- PST

From (32) above it is seen that the subjects in the matrix clause are nominative-marked in Indian languages. This shows that structural case is assigned in the subject in the finite clause in these languages. This can be further supported by the fact that some CNP subjects are licensed Inherent Case by the CNP predicates in some of the ILs. Examples in the following sub-sections show that the CNP subjects and the matrix subjects are Case-marked differently in some Indian languages.

4.2 Backward Control in Indian languages

As indicated in (28b) above, Backward Control is the case where the subordinate or CNP subject is pronounced while the matrix subject is implied. In Assamese, the phenomenon of licensing Backward Control is quite restricted, mainly relating to Case in such a way that Backward Control structure can be best judged acceptable iff the CNP subject is inherently case-marked, being licensed by an experiential predicate (cf. Haddad, 2010) as shown in (33) below.

(33) ***Assamese***

a.	*[tai-r*	*t^{h}anda*	*lag-i]*	*Δ$_{i/*k}$*	*g^{h}orot*	*t^{h}akile*
	she-GEN	cold	feel-CNP	Δ.NOM	house-LOC	stay-PST
b.	*[Δ$_{i/*k}$*	*t^{h}anda*	*lag-i]*	*tai*	*g^{h}orot*	*t^{h}akile*
	Δ.GEN	cold	feel-CNP	he.NOM	house-LOC	stay-PST

"Having felt cold she remained in the house."

Even though the above phenomenon cannot be claimed to be as similar as to what it is happening in the case of the following languages in (34) below, one can note that there is a degree of naturalness or degradation between the case-marked CNP subjects in the languages concerned.

(34) ***Bodo***

a.	*[bi-yw$_i$*	*p^{h}ok^{h}ri*	*k^{h}Athi-ao*	*jona:nwi]*	*Δ$_{i/*k}$*	*met^{h}a:i*	*k^{h}ondwŋmwn*
	he-NOM	pond	near-LOC	sit-CNP	Δ	song	sing-PST
b.	*?[bi$_i$*	*p^{h}ok^{h}ri*	*kha:t^{h}i-ao*	*jona:nwi]*	*Δ$_{i/*k}$*	*met^{h}a:i*	*k^{h}ondwŋmwn*
	he	pond	near-LOC	sit-CNP	Δ	song	sing-PST
c.	*[Δ$_{i/*k}$*	*p^{h}okhri*	*k^{h}At^{h}i-ao*	*jona:nwi]*	bi$_i$	*met^{h}a:i*	*k^{h}ondwŋmwn*
	Δ	pond	near-LOC	sit-CNP	he	song	sing-PST
d.	*[Δ$_{i/*k}$*	*p^{h}ok^{h}ri*	*kha:t^{h}i-ao*	*jona:nwi]*	bi-yw$_i$	*met^{h}a:i*	*k^{h}ondwŋmwn*
	Δ	pond	near-LOC	sit-CNP	he- NOM	song	sing-PST

"Sitting near the pond, he was singing a song."

Konkani

a.	*[hane$_i$*	*nhai*	*pevan]*	*Δ$_{i/*k}$*	*dusro*	*kinaro*	*gat^h-lo*
	he- ERG	swim	CNP	Δ	other	bank	reach- PST
b.	*?[ho$_i$*	*nhai*	*pevan]*	*Δ$_{i/*k}$*	*dusro*	*kinaro*	*gat^{h}lo*
	he	swim	CNP	Δ	other	bank	reach- PST
c.	*[Δi/*k*	*nhai*	*pevan]*	*ho$_i$*	*dusro*	*kinaro*	*gat^h-lo*
	Δ	swim	CNP	he	other	bank	reach- PST
d.	*[Δ$_{i/*k}$*	*nhai*	*pevan]*	*hane$_i$*	*dusro*	*kinaro*	*gat^{h}lo*
	Δ	swim	CNP	he-ERG	other	bank	reach-PST

"Swimming across the river he reached another embankment."

Manipuri

a.	*[məhak$_i$-nə*	*ta*	*pai-dunə]*	*Δ$_{i/*k}$*	*jəgoi*	*sa-i*
	he-.NOM	spear	hold-CNP	Δ	dance	perform-DECL
b.	*?[məhak$_i$*	*ta*	*pai-dunə]*	*Δ$_{i/*k}$*	*jəgoi*	*sa-i*
	he	spear	hold-CNP	Δ	dance	perform-DECL
c.	*[Δ$_{i/*k}$*	*ta*	*pai-dunə]*	*məhak$_i$*	*jəgoi*	*sa-i*
	Δ	spear	hold-CNP	he	dance	perform-DECL
d.	*[Δ$_{i/*k}$*	*ta*	*pai-dunə]*	*məhak$_i$-nə*	*jəgoi*	*sa-i*
	Δ	spear	hold-CNP	he-NOM	dance	perform-DECL

"Holding a spear, he dances.'

Nepali

a.	*[us-le$_i$*	*b^{h}at*	*k^{h}a-dai]*	$\Delta_{i/*k}$	*iskul*	*gə-yo*
	he-ERG	rice	eat-CNP	Δ	school	go-PST
b.	?*[*u$_i$	*b^{h}at*	*k^{h}a-dai]*	$\Delta_{i/*k}$	*iskul*	*gə-yo*
	he	rice	eat-CNP	Δ	school	go-PST
c	[$\Delta_{i/*k}$	*b^{h}at*	*k^{h}a-dai]*	*u$_i$*	*iskul*	*gə-yo*
	Δ	rice	eat-CNP	he	school	go-PST
d.	*[*$\Delta_{i/*k}$	*b^{h}at*	*k^{h}a-dai]*	**us-le$_i$*	*iskul*	*gə-yo*
	Δ	rice	eat-CNP	he-ERG	school	go-PST

"Having eaten rice, he went to school."

The (a) sentences in (34) above sound "more natural" and this implies the fact that a positive extra cognitive effect can be obtained from the distinctly materialized case-marked morphological token in the sense of Krivochen (2014), where LEXICON is composed of Δ type-variables, whose Spell-Out depends exclusively on the syntactic context. The variable enters the derivation as a token-variable bearing a potentially as far as its phonetic form and interpretation is concerned. The (b) sentences in (34), on the other hand, are considered degraded in the flow of normal utterance. This tells that when CNP subjects are an Inherent Case-marked arguments, the Backward Control structure are considered more acceptable. Here the so-called Nominative Case markers in both Bodo and Manipuri and Ergative Case marker in Konkani and Nepali may be treated as default cases since they are apparent within the adjunct CNP clauses. Similar to the case of (34a), sentences in (34b), where the matrix subjects are case-unmarked, sound "more natural". This shows that the CNP subjects and the matrix subjects are Case-marked differently in these Indian languages. The presence of case-marked subject in (34c) in Bodo, Konkani and Manipuri provides a discourse feature of contrastive topic[5] forming a separate tone unit: "it is only the NP subject that functions". In this sense, the Bodo matrix sentence *bi-yw metha:i khondwŋmwn* means "It is only he (not others) who sang a song'. Likewise, the Konkani sentence *hane dusro kinaro gathlo* means "it is only he who reached another embankment". In Manipuri, too, the matrix sentence *məhak-nə jəgoi sa-i* means "It is only he (not I, you, etc.) who dances". This further informs us that the coding of nominative case by a dedicated concatenative exponent, a dedicated morphological marker, on nouns is sensitive to information structure. In Nepali, however, the ergative

[5] By contrastive topic we mean an NP subject that induces alternatives which have no impact on the focus value and creates oppositional pairs with respect to other topics (Kuno 1976, Büring 1999).

case exponent which can be marked to a CNP subject cannot be marked to a matrix NP, which must only be an unmarked default nominative case. We suggest that the morphological case marking of both CNP subjects and matrix subjects generates a contrastive interpretation and this interpretation is licensed at the semantic interface by the position in which the relevant subject argument appears. At this stage, we may assume that whole CNP clause is positioned above T, the only position which is semantically transparent in generating implicatures when read at the semantic interface. As the contrastive information provided by the examples of Bodo, Manipuri etc., tells, the expected position of the entire CNP clause is that of Rizzi's (1997) TopP. What is evident here is that Forward and Backward Controls in Indian languages are licensed independently from the Case similarities or differences between the CNP and matrix subjects.

4.2 Copy Control in Indian languages

As indicated in (31c) above, Copy Control is the case where both the subordinate or CNP subject and the matrix subject are pronounced and they are obligatorily co-referential. In this case, the matrix subject may be realized as a pronoun, an epithet, or an R-expression. In the following sentences in (35-39), it is shown that the genitive subject (35) in Assamese, experiential nominative subject (36 & 38) in Bengali and Konkani, experiential dative subjects (37 & 39) in Kannada and Tamil respectively are licensed by the experiential CNP predicates while their co-referential matrix subjects are nominative marked arguments.

(35) ***Assamese (Haddad 2011, p: 111)***

[Prɒxad-ɒr$_i$	*lobɦ*	*lag-i]*	*x$_i$/$_{*k}$/gadɦa-to-e$_{i/*k}$/*	*Prɒxad-e*
Proxad-GEN	greed	feel-CNP	he.NOM /donkey-CL-NOM /	Proxad-NOM
cake-to	*khal-e*			
cake-CL	ate-3			

"Proxad got greedy, and he/the idiot ate the cake."

(36) ***Bengali***

[meje-ta$_i$	*bacca-r*	*opor*	*rege*	*giy-e]*
girl-CL-NOM	child-GEN	on	angry	went-CNP
o/pagli	*bacca-ta ke*		*k^{h}ub*	*marlo*
she$_{i/*k}$/mad$_{i/*k}$	child-CL ACC		very	beat-PST

"The got angry with the child, and she/the mad girl had beaten the child badly."

(37) ***Kannada***

[ra:man-ige$_i$	*hasi-va:g-i]*	*alli*	*iruva*	*koḻeṭa*	*haṇṇanne:*
Ram-DAT	hungry-Come-CNP	there	exist	rotten	fruit
avan$_{i/*k}$/a:	*mu:rk^{h}a$_{i/*k}$*	*tinna-toḍagi-danu*			
he.NOM /that	idiot.NOM	eat-start-PST-3SM			

"Rama got hungry, and he/the idiot ate the rotten fruit lying there."

(38) ***Konkani***

[Sampada$_i$	*k^{h}ub*	*radily-an]*	*te$_{i/*k}$*	*t^{h}akle*
Sampada	very	cry-CNP	she.NOM	tire-PST

"Sampada danced very much, and she got tired."

(39) ***Tamil***

[ramann-ukku$_i$	*kovam*	*van-tu]*	*avan$_i$*	*maratt-ai*	*vett-in-a:n*
Rama-DAT	angry	come-PST-CNP	he- NOM	tree-ACC	cut- PST-3SM

"Raman got angry, and he cut the tree."

From (35-39), we again see that the CNP subjects in Copy Control, too, are inherent Case-marked. They are non-pronominal and occur only in the sentence-initial subject positions. In this case also, the CNP subjects and matrix subjects are differently case-marked.

4.3 The MTC under copy theory of movement

According to Hornstein (2001), an element moves in order get more semantic roles, in the form of features. So, and argument moves from the embedded clause to the matrix clause and such movement leaves a copy behind, and the lowest copy is deleted for phonology. Both the copies within the derivation are semantically interpreted, but the lowest one is phonologically erased. This mechanism allows us to account for non-finite clauses without PRO. Let us consider the following Forward Control construction (40) where the CNP clause is sentence-initial.

(40) ***Tamil***

[~~avən$_i$~~	*cappəTu*	*ca:ppi-TTu]*	*avən$_i$*	*pəllikkuc*	*cenRan*
~~he.NOM~~	meal	eat-CNP	he.NOM	school- DAT	go- PST

"Having eaten meal, he went to school."

Following Haddad (2011), I also suggest that the sentence (40) has the derivation in (41) below.

(41) a. i. *[$_{CNPP}$ [$_{NP}$ avən] cappəTu ca:ppi-TTu [$_{NP}$ avən]*

[$_{CNPP}$ [$_{NP}$ he-NOM meal eat-CNP]

ii. *[$_{Matrix\ vP}$ pəllikkuc cenRan]*

[$_{Matrix\ vP}$ school went-PST

b. *[$_{Matrix\ vP}$ [$_{NP}$ avən] cappəTu ca:ppi-TTu]*

c. *[$_{Matrix\ IP}$ [$_{vP}$ [$_{CNPP}$ [$_{NP}$ avən] pəllikkuc cenRan]*

[$_{vP}$ [$_{NP}$ avən] pəllikkuc cenRan]]]

d. *[$_{Matrix\ IP}$ [$_{vP}$ [$_{CNPP}$ [$_{NP}$ avən] pəllikkuc cenRan]*

[$_{NP}$ avən] [$_{vP}$ [$_{NP}$ avən] pəllikkuc cenRan]]]

The CNP clause and the matrix clause form independently, and the NP *avən* copies out of the CNP clause in (38a). In (41b), *avən* merges in the matrix clauses. Here, the computational system uses a copy-plus-merge operation between the two unconnected syntactic objects, the CNP clause and matrix clause. Nunes (1995) calls such steps[6] as 'sideward movement', which construes inter-tree dependencies. In (41c), the CNP clause adjoins to the matrix vP and upon adjunction, the CNP clause becomes an island. And, the matrix subject *avən* moves from Spec,vP to Spec, IP to check the EPP feature. Following Haddad (2011) we assume that the CNP clause is base-generated at vP of the matrix clause before it moves to the position where it is pronounced. So, (40) has the structure in (42)

[6] The derivational steps indicating the sideward movement is sketched in (1) below Boeckx, Hornstein, Nunes (2010: 85).

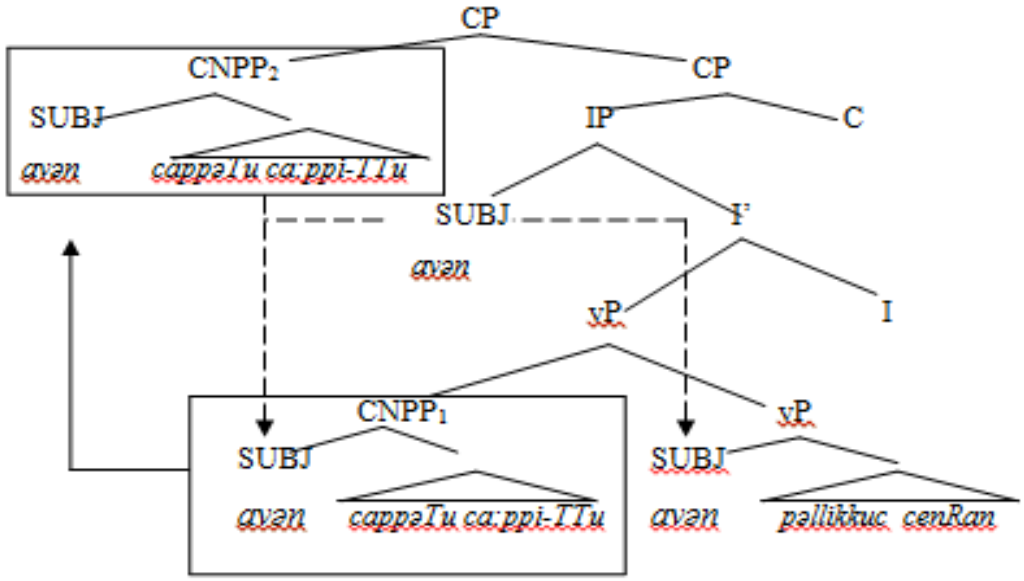
(1) a. Application of select, merge, and copy:
K = [. . . α . . .]
L = [. . .]

b. Copying of α
K = [. . . α . . .]
L = [. . .]
M = α

c. Merger of α and L
K = [. . . α . . .]
N = [α [$_{L}$ . . .]]

The computation system first builds the root syntactic objects K and L in (1a), and a copy of α from within K is made and merged with L. This yields the syntactic object N. The steps sketched in (1) above are called 'sideward movement'.

(42)



The dotted arrows in (42) shows that the copy of the subject in Spec,IP of the matrix clause c-commands both the copy in Spec,vP and the copy in the lower $CNPP_1$. Now, it forms a relevant chain[7] with each of them. At PF, Chain Reduction[8], and the lower copy in each chain is deleted. Again, the two copies of the $CNPP_1$ and $CNPP_2$ form a chain; and at PF, the lower copy is deleted as instructed by Chain Reduction. There is a remnant movement as shown in the above structure (42) that the CNP clause moves to the matrix CP after the CNP subject has moved to the matrix clause. In this case, the chain {avən, avən} in (42) is made up of two structurally distinct copies: the first copy of the subject in Spec,IP of the matrix clause, and the second copy of the subject in the CNP clause. In this way, the chain {avən, avən} must be defined as given in (43), where one link is identified as the sister of the matrix I' and then the other link as the sister of the CNP' of the CNP clause.

[7] Chain formation requires *identity*, *c-command*, *feature relation* and respect of *Minimality effects* (Rizzi, 2004:226).

[8] *Chain Reduction*

Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the L[inear] C[orrespondence] A[xiom]. (Nunes 2004: 27).

In the above line, there are two nondistinct copies of *avən* in a c-commanding relationship, which results in the formation of a chain of two copies. But, pronouncing both copies violates the LCA. Here, Nunes's proposal significantly relies on the fact that all c-command relations among lexical items are computed so that it can yield an ordered sequence of terminals. Since LCA cannot assign a linear ordering unless one of the copies of *avən* is deleted and hence not interpreted at the interface. In order to ensure the structure through LCA, one of the copies has to be deleted. In this case, Chain Reduction applies and marks one of the copies for deletion.

(43) *{ vən, [$_{I'}$ ...]), { avən, [$_{CNP'}$ cappəTu ca:ppi-TTu])}*

At PF, Chain Reduction instructs the phonological components to delete the occurrence of *avən* that has structural configuration of (*avən*, [*CNP' cappəTu ca:ppi-TTuP*]). In this taking, in (42), two such copies such as one in CNPP1 and other in CNPP2 exist. The derivation ends up deleting two copies of (*avən*, [$_{CNP'}$ *cappəTu ca:ppi-TTu*]) in parallel to the assumption that the phonological component blindly scans the structure to carry out the deletion instructed by Chain Reduction (Nunes 2004: 54), as shown in (44) below.

(44) a. At PF: *[$_{Matrix\ IP}$ [$_{vP}$ [$_{CNPP}$ [$_{NP}$ ~~avən~~] cappəTu ca:ppi-TTu]*
[$_{NP}$ avən] [$_{vP}$[$_{NP}$ ~~avən~~] pəllikkuc cenRan]]]

b.

[~~avən~~$_i$	*cappəTu*	*ca:ppi-TTu]*	*avən$_i$*	*pəllikkuc*	*cenRan*
~~he.NOM~~	meal	eat-CNP	he.NOM	school- DAT	go- PST

"Having eaten meal, he went to school."

In the same derivational history, When Chain Reduction deletes the matrix copy of the subject, it leads to Backward Control. However, Chain Reduction favors the Forward Control over the Backward Control since the CNP subjects have default Case that is realized in the absence of a licensing head, which is responsible for a matrix subject. Since the system is to link copies of an element, there seems to create a problem that copies are not identical in a strict sense. The feature of the lower copy carries the sort of a feature which the higher copy does not. As suggested by Krivochen (2013), it is difficult how Copy, Form Chain and Chain Reduction can have interface rationalization in an independent manner. In its strict sense, if syntax requires only MERGE operation, there is no way copy+Merge and Form Chain can occur in the syntactic workspace, establishing a dependency between constituents of the form CH = (α_1, . . . , α_n). This prerequisite occurs at the interface system when the syntactic object containing the relevant chain links have been transferred. As Krivochen (2013) argued, the operation Copy would be superfluous if copies were indeed present in the NUM. Again, the establishment of a dependency between objects at the interface pervasively lets us know to make out the position from which the merged item comes. In this regard, one side is to adopt that it is from the DERIVATION (Internal Merge), claiming that both the target and the displaced object should be in the syntactic workspace at the same derivational point D_x and some kind of local transfer model such as a version of successive cyclicity via feature valuation is to be implemented (Chomsky, 2005; Abels, 2003, 2012). And the other side is to adopt that the merged item comes from NUM (External Merge), claiming that the NUM has access to the information about multiple instances of a lexical item and derivation will be sustained on

the condition of unchecked feature surviving with the Lexical Item (Stroik (2009; Stroik & Putnam 2013).

4.4 The Token-Remerge Account of Conjunctive Participial

As mentioned in section (3.1), token-merge is driven by the need of increasing the informational load as stated in the DFI principle. So each token provides the interface with a part of the total information, which is interpreted. Conjunctive Participles Clauses are Free Adjuncts, which are often located at the left periphery of the matrix CP, whose subject is co-indexed with that of the main clause (cf. section 4.1, 4.2 above). Semantically, their interpretation is unambiguous, while, phonologically, they constitute a separate tone unit cf. section 4.2 above in the case of Backward Control). Under the classical proposal, there is a PRO (see section 3.1 in the case of infinitive construction) and this PRO would function as a subject for the non-finite form. So it is considered being generated within vP/VP projections and then internally merged in Spec, IP position (cf section 4.3) to satisfy [EPP]. We follow Krivochen and Kosta (2013) that [EPP] be eliminated since it is dispensable in an interface-driven free merge. Recall that Token remerge is driven by thematic reasons since the external position licensed by T is to be read as the theme of the clause. We assume that CNP clause is in the Spec,TopP (see section 4.2 in the case of Backward Control), since there is a contrastive value which can be identified by adding another clause as shown below in (45).

(45) Having eaten the meal, He went to school [, not before (eating the meal)]

Perceiving so far, the contrastive implicature gets involved in localization of the event in the finite clause in the Time continuum in relation to the non-finite clause[9]. This actually holds in the interpretation. We assume that CNP clause is base-generated under the scope of T. As suggested by Krivochen and Kosta (2013), the position of the merger of the hierarchically lowest token of the construction is within the T sphere.

(46) *[$_{To\ p}$avən cappəTu ca:ppi-TTu] [$_{Time}$ [avən pəllikkuc cenRan] [~~avən cappəTu ca:ppi-TTu~~]*

The strikethrough in (46) represents the non-materialized token. Token-merge in Top is interface driven by the need to generate a contrastive interpretation. As explained in section 3.1, the token [*avən*] in the CNP clause is not Spelled-Out because it would not be optimally relevant. Only one token, an explicature, which is a full propositional form with referential variables filled, can very well be

[9] I assume that since the Non-finite CNP Clauses containing the NOM-marked subjects are base-generated under the scope of T, such NOM is assigned by T at the interface.

assembled. In this RM approach, the main properties of our CNP clause can be accounted without resorting to Control-theoretic stipulations.

5.0 Conclusion

This paper has attempted to explore the basic properties as well as of non-finite verbs in Indian languages. This paper started with an introduction part briefly mentioning about the properties of non-finite verbs across the languages. The section 2 has touched upon the general agreement about non-finite clauses and provided Indian data to analyze the stuff. Section 3 is the main section of the paper in which non-finite forms along with their characteristics in Indian languages are explored in such a way that infinitival constructions have been discussed based on the theoretical perspectives from the Movement Theory of Copy (MTC) and Token-merge approach in sub-section 3.1. A small discussion on gerundial constructions in sub-section 3.2, is also done using syntactic criteria such as adverbial modification, verbal noun stacking and constituent Structure. In sub-section 3.3 participial constructions based on the standard minimalist program is analyzed and conjunctive participial clauses briefly incorporating the MTC under copy theory of movement followed by Token-remerge account based on radical minimalism are also analyzed in sub-section 3.4. This paper is just a slight touch on the topic with a view of which the researchers in the field may find it practical as regards to the data from Indian languages when analyzed over the non-finite forms. The section 5 concludes the paper.

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AMOM NANDARAJ MEETEI

LECTURER/RP, LDC-IL, CIIL,

Mansagangotri-570006

e-mail: amomcha@gmail.com

Tele: 0821-2345050

Mob: 09980325662