NOMINAL FEATURES IN HINDI LANGUAGE ACQUISITION: A STUDY OF AGREEMENT & MODIFICATION

THESIS SUBMITTED TO JAWAHARLAL NEHRU UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

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2017

DECLARATION

Dated 31.07.17

This thesis titled **"Nominal Features in Hindi Language Acquisition: A Study of Agreement & Modification"** submitted by me for the award of the degree of Doctor of Philosophy, is an original work and has not been submitted so far in part or in full, for any other degree or diploma of any University or Institute.

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List of Abbreviations

1P	First person
2P	Second person
3P	Third person
M	Masculine
F	Feminine
SG	Singular
PL	Plural
ACC	Accusative
DAT	Dative
ERG	Ergative
INST	Instrumental
SOC	Sociative
COM	Comitative
ABL	Ablative
ABIL	Abilitative
LOC	Locative
OBL	Oblique
AUX	Auxiliary
PROG	Progressive aspect
PERF	Perfective aspect
IMPERF	Imperfective aspect
INFI	Infinitive
PRS	Present tense
PST	Past tense
FUT	Future tense
REL	Relative pronoun
Wh	wh-word
V_i	Intransitive verb
V_t	Transitive verb

V_{dt}	Ditransitive verb
EMPH	Emphatic particle
COMP	Complementizer
HON	Honorific
DEM	Demonstrative
Q	Quantifier
PART	Participle verb
ADJ	Adjective
REFL	Reflexive
CAUS	Causative
COMPL	Completive

List of Symbols

a	central unrounded vowel
aa	open back vowel
i	near-close near-front vowel
ii	close front vowel
u	near-close near-back vowel
uu	close back rounded vowel
e	near-close front vowel
E	open-mid near-front vowel
o	open-mid back vowel
au	close-mid back vowel
N	nasalization
k	velar plosive
c	voiceless alveolar affricate
j	voiced alveolar affricate
T	voiceless retroflex plosive
D	voiced retroflex plosive
t	voiceless alveolar plosive
d	voiced alveolar plosive
y	palatal approximant
v	labio-dental fricative
sh	voiceless alveolar fricative

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Acknowledgements

Firstly and foremost, I would like to thank my supervisor Prof. Ayesha Kidwai, whose consistent support and encouragement made it possible for me to forge ahead in the most difficult of times and reach this far. Her infectious positivity in the face of any adversity has taught me that there is always a way forward, however difficult the path may be. Everything in the field of Linguistics that I have learnt is the culmination of the strong roots that grew under her nourishing care. My ability to seek answers to puzzling theoretical and empirical problems, which I admit was earlier negligible, has grown under her guidance. Every discussion with her on any problem has always ended with me learning something from her and at the same time from myself, which is a quality I will always strive to acquire.

I would like to thank my co-supervisor Dr. Sonja Eisenbeiss, who introduced me to the field of psycholinguistic research. Under her able guidance I learnt the intricacies of conducting an acquisition study, from creating materials/tools for field work, to collecting data, to converting raw data into analyzable form and finally being able to extract useful information from large amounts of numbers.

I take this opportunity to especially thank all the children who participated in this study. It was truly a pleasure working with each of them. I also thank all parents, families, guardians, teachers and authorities of the three schools of these children for their cooperation and patience. I thank family members, friends and neighbours who gave me references for participants.

I thank all my teachers at the Centre for Linguistics all of whose courses helped shape my knowledge of the field. What I understand of the field of Semantics would all have remained obscure and forever mysterious to me without the courses I took with Utpal Lahiri. Interactions with Tanmoy Bhattacharya, Vineeta Dayal, Rajesh Bhatt at various points of time in these years always stoked my curiosity about the intricacies of linguistic structure and our yet limited understanding of them. The interactions I had with Tom Roeper introduced me aspects of psycholinguistic research that I was unfamiliar with. With him I developed a greater understanding of how experimental studies can be related to complicated theoretical puzzles.

I thank the organizers of Lissim8 for granting me the opportunity to be part of the incredible learning environment that it is. I thank each of the participating faculty and participants for their role in this experience.

I would like to thank all my colleagues in the field of linguistics, senior, junior or peers, who have at some point or the other been part of this journey. There was always something to learn from my interactions with each of them.

I thank all my non-linguistics friends for their constant curiosity in my area of research. Their inquisitiveness always leads to stimulating conversations and my growing interest in the field. Besides, their constant support and presence by my side has always given me strength.

I particularly thank Hima and Manasi for helping me manage university formalities in the last few days before submission of this thesis. I thank Yangchen for helping me format and bring my thesis to a printable condition. Given the state of my health, I could not have achieved this without any of you.

I thank the non-teaching and administrative staff of the university, for helping and guiding us through through the years.

Lastly, but definitely not the least, I thank my family for being my backbone and my continuous source of strength. My parents, who never held me back from my aspirations and wishes and my brother, Puneet, who always has encouraged and inspired me to strive for greater heights. Their constant encouragement has always allowed me to explore and achieve greater potential. I thank my second family who I acquired five years ago. Their support, understanding and care have been most valuable in this journey.

My gratitude to my husband cannot do justice to the amount of encouragement and support that I have had from him. His unwavering and unfaltering support has the source of my renewed confidence in every moment of crisis. My friend and partner in crime, having him by my side made it possible for me to go through the most difficult of moments.

Chapter 1

Introduction

1.1 An introduction to the study

A noun-class language, Hindi classifies all nouns on the basis of grammatical gender values into masculine and feminine and a dual number system of singular and plural. From the lexicon itself, each noun enters a derivation fully specified for values of these features, which in turn appear in the form of inflections on constituents other than the noun itself. The broad term of agreement includes verb agreement, that is, obligatory agreement morphology on verbal constituents with features of a nominal in the sentence, and modifier agreement, which is agreement on modifying constituents with the modified nominal. Case morphology, on the other hand, defines the syntactic and semantic roles of an argument in a clause structure with respect to the predicate and other arguments. Case morphology in the form of oblique concord appearing on the inflecting class of lexical and functional items appears as an outcome of an element external to this lexical item itself. Other case morphology in the form of phrasal postpositions marks the semantic relations of the nominal phrases within the clause structure and allows the language to scramble the phrasal constituents in the sentence without obscuring the meaning of the argument structure being expressed. Verb agreement in the clausal structure is the outcome of lexical features of a noun being manifested on the verbal constituents. These interpretable feature values of the noun value the uninterpretable features on the verbal constituents and appear as inflections on the phonological form of these constituents. A clear set of rules define which feature of which argument will appear on which verbal constituent.

Agreement in the language also includes the appearance of obligatory agreement morphology on an inflecting class of modifying constituents in a complex noun phrase. In the nominal domain, modifying constituents such as adjectives and participle verbs, show agreement with the modified nominal. The obligatory appearance of nominal features allows the language to freely omit arguments from a clause structure, or the modified

noun itself from a complex noun phrase. Since the agreement of features of the nominal category appears even if the noun has been omitted from the structure, this agreement morphology serves to identify the referent of the elided noun from the discourse context.

This thesis presents a study of acquisition of nominal features in the form of agreement and case morphology in the developing grammar of Hindi speaking children in the Delhi region. Using primary data from 46 children in the age range of 1;11 to 5;11[1], the study looks at the progression of children's grammar to adult fluency in the grammatical properties of case morphology and agreement. A combination of an existing set of tools and a newly developed task was employed for the elicitation of language production data from the children in order to capture the use of these phenomena in the children's grammar. While the former of these were designed with the intention of targeting a cross-linguistic set of participants, the latter was designed specifically with a view to capture the case and agreement systems operating in Hindi speaking children.

1.2 A note on 'Agreement' and 'Concord'

In the traditional typological literature, the terms 'agreement' and 'concord' have been used to distinguish between the appearance of nominal features on verbal constituents in the clausal domain and on modifying constituents in the nominal domain respectively (Greenberg 1978, as cited in Corbett 2006, among others). Chomsky (2001) distinguishes the latter from the former by the absence of the Agree relation in the operation of Merge and the absence of the syntactic configuration required for an Agree relation to exist between a noun and its modifier. Baker (2008) deviates from this view and proposes that in both domains the appearance of a noun's features on verbal constituents and adjectives are the result of a similar operation. He takes forward Abney's (1987) account of a nominal structure and a clausal structure being essentially similar in configuration (also Carstens 2000). He proposes that like in the verbal domain, the presence of functional projections dominating adjectives in a noun phrase allows for a configuration for an

[1] Age is represented in the format Y;MM throughout the thesis.

Agree relation to operate. This thesis follows his proposal and assumes that different modifying categories in the noun phrase are dominated by functional heads "that match it in gross categorical features" (Baker 2008:74). The difference in the two domains is that a verb's functional projection probes downwards for a feature set to agree with, and that of adjectives (and other modifiers) probes upwards (See Section 2.5 and 3.1) .

The term *concord*, on the other hand, is restricted to "matching in case within the noun phrase" (Greenberg 1978, as cited in Corbett 2006). Lexical features of the nominal category that are involved in the process of agreement are not taken to be a part of concord. Instead concord is taken to be matching of features other than those that are lexical. For the language under study in this thesis, Hindi, concord is assumed to be the morphological inflection appearing on a particular class of lexical and functional categories triggered by the presence of a constituent that is not part any of these categories. More specifically, concord is assumed to be the appearance of oblique morphology on inflecting nominals (including nouns and other nominal/nominalized categories such as pronouns and infinitives) and inflecting constituents in its modifying structure (including various categories such as demonstratives, adjectives and non-finite participles). Using Masica's (1991) terminology, this Layer I case morphology is triggered by the presence of overt Layer II case[2] morphology on the noun phrase (See Sections 2.2 and 2.3).

1.3 Prior acquisition research on case and agreement systems

Much of prior work on the acquisition of case has been on the early appearance of case encoded in the language of very young children, either in the form of word-order or in the form of early appearance of case morphology (Slobin & Bever 1982, Wittek & Tomasello 2005, among others). The former of these in languages such as English take

[2] This thesis does not delve into the formal form of CASE features and their derivations. Discussion here is restricted to the phonologically overt manifestations of the postpositional clitics that mark the syntactic and semantic grammatical relations of the nominals with respect to the clause structure (See Section 2.4 for details)

word-order to be representative of sensitivity to agent-patient relations in the children's language (Slobin 1982, Wittek & Tomasello 2005), while the latter includes the earliest occurrences of case morphology in rich morphological systems such as that seen in Turkish (Slobin 1982, Slobin & Bever 1982, cited in Tomasello 2003 and Eisenbeiss et al 2008), Japanese (Hakuta 1982, cited in Tomasello 2003) and Polish (Weist 1983, cited in Tomasello 2003). Case marking in agglutinating languages, unlike a word-order language such as English, occurs as early as the age of 1;3 in Turkish and 1;0 in Finnish (Laalo 2002, Aksu-Koç and Ketrez 2007, Voeikova 2002, Eisenbeiss et al. 2008). In Slavic and Baltic languages the earliest age at which these oppositions occur is about 1;9 (Savickienė 2002, 2003, Voeikova & Gagarina 2002, and Eisenbeiss et al. 2008).

Thus the timing of morphological development in the children's grammar, as was observed in these studies, depends on the typology of the language concerned. Tomasello (2003) also discusses Slobin's (1982) observation that languages that clearly mark agent-patient relations through concrete morphological markers with phonological manifestations provide "local cues" on the noun itself (also in Eisenbeiss, Narasimhan & Voeikova, 2008). These cues provide a developmental advantage to children acquiring the grammar so the semantic role of the noun can be interpreted locally rather than after the interpretation of the entire sentence, as is otherwise the case in word-order languages such as English.

Wittek and Tomasello (2005) through the use of nonce nouns and verbs investigated children's sensitivity to nominative and accusative roles of arguments in a sentence cross-linguistically. They found that German speaking children acquired this sensitivity earlier than English speaking children and attributed this to the German morphological markers internal to the noun phrase, in contrast to the word-order cues that English speaking children relied on. A number of other studies on acquisition of German case marking have found that children do not use contrastive case markers in the two-word stage (Clahsen 1984, Mills 1985, Tracy 1986, Parodi 1990, Clahsen et al. 1994, Schütze 1997, Eisenbeiss 1994, 2000, 2002, Szagun 2004, Wittek & Tomasello 2005, Eisenbeiss et al. 2006). Other studies have found the progression of case morphology to proceed from the suppletive forms on accusative and dative pronouns, to regularly inflected suffixes on

determiners and adjectives, and lastly on nouns (Indefrey 2002, Eisenbeiss 2002, Eisenbeiss et al. 2006)

Narasimhan (2005, 2008), Budwig, Narasimhan & Srivastava (2006) look at the use of ergative case marking on 'A' role (agent) arguments in Hindi, a split-ergative language that marks sentential arguments with overt morphological markers. Narasimhan (2005) looks at this particular Layer II morphological marker in the speech of children as young as 1;7 and their caregivers in a longitudinal study to investigate sensitivity to 'A' role arguments in their language. In the results of this study she finds no overextensions of the *–ne* marker on non-ergative arguments, that is, agent roles in intransitive contexts, non-agentive arguments, or agentive arguments in non-perfective contexts. These facts indicate that at an early age, children are able to restrict the notion of agent in the contexts of an aspectual split. The complexities that govern the use of ergative marking in Hindi in terms of syntactic-semantic role of the argument, transitivity and aspectual context of the sentence do not hinder children's early sensitivity to overextend the ergative to non-ergative contexts. With respect to omissions of the ergative marker, Narasimhan does offer possible reasons but also observes that over the duration of data collection, the number of omissions gradually reduces.

With respect to nominal features and agreement systems, studies have found children to acquire a formal gender and agreement systems around the age of 3. Mulford (1985) found that Icelandic children tend to acquire natural gender values much earlier than non-natural gender values. Beyond the assignment of natural gender, Polish speaking children have been found to acquire the grammatical gender by the age of 2 years (Smoczyńska 1986), and German speaking children have been found to make fewer errors in grammatical gender assignment by the age of 3 years (Szagun et al. 2007). Even in spite of the large number of gender classes in Bantu, children have been observed to acquire the noun class system with relative ease (Demuth 2003, 2012). Sesotho speaking children were similarly observed to correctly use agreement on nominal modifiers, even if they produced it without the noun class prefix. Phonological transparency and regularity of form contribute to this process of early acquisition (Demuth 2012).

Another related phenomenon that has received some recent attention in the study of Hindi language acquisition is the influence of case morphology on the agreement patterns of the language. Pareek, Kidwai & Eisenbeiss (2016) found a high sensitivity in children's grammar to the influence Layer II morphology has on the agreement process in the verbal structure, but show that this sensitivity is fallible in certain contexts. Violations of the language specific rule that disallows verbal agreement with an overt Layer II marked noun phrase were observed in the study. These violations were seen only with *–ko* marked objects (which was a manifestation of differential object marking on a human object) in the non-perfective aspect in the language of children as old as 5;6 and were attributed to a partial adherence to this rule in the developing grammar as it approaches adult fluency. The study emphasized that there was no such violation in the context of an ergative *–ne* marked subject in the data collected. However, the study provided no evidence to discuss if this violation was limited to *–ko* marked nouns in the object position only, or extended to any other Layer II morphological marker in the object position, or for that matter to *–ko* marked subjects as well.

1.4 Lack of extensive acquisition research in Hindi language

Keeping these prior studies in view, the current study takes the acquisition research a step further by capturing the children's sensitivity to arguments in their syntactic-semantic roles in the sentence structure through Layer II morphology in Hindi in varied predicate structures. The relation of an argument to its sentence structure in is further complicated in Hindi due to the presence of complex predicates of N+V and V+V structures, which may or may not influence the argument structure. The morphological markers that mark these relations in a sentence have a further consequence on the nouns/noun phrases that these markers appear with. Oblique morphology, or Layer I case morphology, triggered by the presence of Layer II case morphology, and its occurrence in children's developing grammar has remained an ignored phenomena in contrast to its morpho-syntactic trigger.

Agreement internal to the nominal structure which is dependent on the individual features of the head noun and the structure of its modifying structure is another unexplored domain with respect to acquisition research in Hindi. A nominal phrase consisting of a modifying structure may or may not show partial feature agreement with the head noun on the constituents of the modifying structure. Modifying structures including adjectives, postpositions encoding possessive relations, nominal modifiers, determiners, quantifiers, participle verbs and wh- words may show agreement with the partial feature set of the head noun, and also show oblique concord in the presence of an overt Layer II morphological marker. Not much is known about the acquisition of these grammatical features and their progression towards adult grammar competency and remains an unexplored area of empirical research.

The brief overview above of previous research shows that there is a dearth of data and empirical studies available for child language acquisition in not only Hindi, but also for any other Indo-Aryan languages. These languages being typologically distinct in many respects from the languages that have so far been studied in acquisition research, have the capacity to provide a rich pool of insights to the development of grammar from a universal state to adult fluency in particular languages.

1.5 Outline of the thesis

Following is an outline of the thesis briefly stating the structure of the chapters and their contents:

To begin with, the phenomena of case and agreement morphology in Hindi are described in some detail in Chapter 2. Layer I oblique case morphology which appears in a particular syntactic context, which is the presence of an overt Layer II case marker, depends on different gender/number values and the phonological forms of the nominal classes. These nominal classes include ones that inflect for oblique and those that have suppletive forms for oblique, such as relative and personal pronouns. Besides nominal classes, items of modifying categories, both lexical and functional also mark take oblique

morphology either through inflection or suppletive forms. Sections 2.2 and 2.3 consist of a description of these forms with relevant examples. Section 2.4 moves to a description of Layer II case postpositions in the language. Assuming these finite set of phrasal clitics to be postpositions marking semantic roles of arguments in a clause structure, this section proceeds to briefly discuss each of these. The various semantic roles that these postpositions encode are described in this section with examples. Layer III postpositions in the language most of which encode spatial and temporal relations, are also discussed in this section. After case morphology, Section 2.5 moves to a description of the verb agreement system in the language. The various syntactic conditions and restrictions that determine agreement in the verbal domain with an agreement controlling argument are described in this section. The operation of AGREE and the conditions of CBAC and SCOPA operating under different predicate structures and aspectual contexts are described and discussed in this section.

Chapter 3 gives a detailed account of the different categories of modifiers that may appear in a complex noun phrase (CNP). The inflecting classes of constituents in different modifying structures show partial agreement with the head noun being modified. This agreement is partial because the restriction on person agreement, SCOPA, as described in the previous chapter, operates in its configuration. The necessary Spec-Head structure with an EPP feature is lacking in a CNP, hence agreement only in gender and number takes place with the agreement controller. Baker's (2008) analysis is adopted here that says a functional head probing upwards for a feature set to agree with, dominates each category of modifier to allow for agreement to occur. Each section in this chapter briefly shows the different categories of modifiers that may appear in a Hindi noun phrase. Sections 3.7 and 3.8 specifically delve into a detailed description of the *–kaa* postposition and *–vaalaa* particle in a CNP. Given the various semantic contexts it can be used in, it has been argued that calling the *–kaa* postposition as either a possessive marker or a genitive case marker is inaccurate and it is better described as a relational marker. Similarly, the *-vaalaa* particle and the specific semantic context in which it may be used to express various relations is discussed in detail. It is argued through the

discussion that this particle, like *–kaa*, is better called a relational postposition than a particle.

Chapter 4 describes in detail the methods employed for this study. The kinds of methodological approaches used in psycholinguistic research, especially when it concerns obtaining acquisition data from children, and the merits and demerits of these approaches are presented in section 4.2. This is followed by descriptions of the three tasks employed in this study in sections 4.3, 4.4 and 4.5. The participants in each of these tasks are listed along with their linguistic profiles, followed by the material adapted for use in Hindi for the Case Task and the Bag Task and the new material developed, called as Agreement Task, specifically targeting the use of case and agreement systems in the nominal and verbal domains in Hindi. The procedures for conducting each of the tasks and then for transcribing and analysis of data are described for each task.

Chapters 5 and 6 are where the results of this acquisition study are stated and examined in detail. Chapter 5 covers the language production of agreement and case features in the verbal domain, including different morphological markers expressing syntactic and semantic roles of an argument in the clause structure. Chapter 6, on the other hand, looks at the appearance of agreement in the nominal domain in the language production data. The different kinds of errors found in each of these domains are shown to be part of a grammar rapidly progressing towards adult-like fluency. The small numbers of errors indicate that some rules and conditions of adult grammar are still not firmly in place in the developing grammar, resulting in their incorrect application sometimes and grammatical ones otherwise.

Chapter 7 presents a general discussion of the results found in this acquisition study. This chapter concludes the thesis by stating some of the questions that arise about the acquisition process of the agreement and modification processes in the developing grammar. The fact that there is very little prior research in Hindi language acquisition is stated arguing for the need of developing additional tools and materials for studying the acquisition of different grammatical features in Hindi, besides other related languages spoken in the Indian sub-continent.

Chapter 2

Case and Verb Agreement Morphology in Hindi

2.1 Introduction

Case morphology in Hindi has been described in terms of three classes or layers, as Zograf (1976), and following him Masica (1991), has called them. Layer I case morphology, also known as the Oblique marking, "attach directly to the base, with morphophonemic adjustments which are occasionally complex" (Masica 1991). Layer II postpositional clitics, traditionally understood to mark syntactic and semantic functions of case, are required to be mediated by the Layer I morphology subject to the declension class of the stem. Layer III postpositions are further mediated by a Layer II particle, specifically the *–kaa* marker in its oblique form. Following the typological description by Butt & King (2004) (also Bittner & Hale 1996), this thesis labels these Layer II phrasal clitics as K, that essentially serve to mark grammatical functions, such as the function of subject (Spencer, 2005).

The verb agreement pattern in Hindi manifests itself in the form of feature agreement on the verbal constituents of various forms. This system is based on a noun class system that assigns a masculine or feminine grammatical gender to each noun in the lexicon and a binary number distinction of singular and plural in the grammar. Depending on the complexity of the verb itself and the temporal and aspectual structure of the verbal complex, agreement in gender, number, person and honorificity with a nominal in the clause may appear in the form of inflectional markings on the main verbs, the light verbs or the tense/aspect marking auxiliary verbs.

This chapter consists of a description of inflectional and postpositional morphology in Hindi, in terms of Layer I, Layer II and Layer III postpositions. Layer I case morphology, or oblique concord, is inflectional in nature and may appear on a nominal stem as well as its modifying constituents. Whether it appears or not depends on the declension class of

the lexical category concerned. Layer II and Layer III, on the other hand, are phrasal clitics that mark semantic and syntactic roles of an argument in the clause structure. The syntactic distribution and semantic relations expressed by different Layer II markers are then discussed with examples. This is followed by a brief description of Layer III morphology and its structure. This is followed by a discussion of the agreement phenomena in the verb structure of Hindi. The various factors and rules that govern verb agreement with a nominal, including transitivity, aspect, overt K morphology, and features to agree with, are discussed with relevant examples.

2.2 The distribution of Layer I case marking in Hindi

The presence of overt K morphology obligatorily requires a class of nominals to inflect and assume a Layer I form (Butt & King 2004, Spencer 2005, Kachru 2006, among others). This class of nominals includes *–aa* ending masculine singular, masculine plural, and vowel ending feminine plural nominals (Kidwai, 2014). In the absence of K, on the other hand, each of these nominals appears in their stem forms.

(1) laRkaa guRiyaa bec rahaa hE
boy.M.SG doll.F.SG sell PROG.M.SG AUX.PRS.3P
'The boy is selling a doll'

(2) laRke guRiyaaeN bec rahe hE
boys.M.PL dolls.F.PL sell PROG.M.PL AUX.PRS.3P
'The boys are selling dolls'

(3) **laRke** -ne guRiyaa -ko becaa
boy-OBL.M.SG -ERG doll.F.SG -ACC sell.PERF.M.SG
'The boy sold the doll'

(4) **laRkoN** -ne **guRiyaaoN** -ko becaa
boys-OBLM.PL -ERG dolls-OBL.F.PL -ACC sell-PERF.M.SG

'The boys sold the dolls.'

The *–aa* ending masculine nominal *laRkaa* 'boy' does not inflect for oblique in either singular or plural contexts when followed by a null form of K as seen in (1) and (2), but does when followed by an overt K morphology as seen in (3) and (4). The feminine noun *guRiyaa* 'doll' shows oblique morphology in the presence of K, only in its plural form, as seen in (4).

Masculine singular nominals not ending in *–aa* and proper names, irrespective of their phonological form, do not take oblique morphology. Masculine plural forms of nominals, on the other hand, do inflect for oblique in the context of overt K marker.

(5) sana -ne kitaab khariidii
Sana.F -ERG book.F.SG buy.PERF.F
'Sana bought a book'

(6) aadmii -ne kitaabeN khariidii
man -ERG books.F.PL buy.PERF.F
'the man bought books'

(7) aadmiyoN -ne kitaaboN -ko khaariidaa
men-OBL -ERG books.OBL.F -ACC buy.PERF.M.SG
'the men bought the books'

Other than the declensional class of nominals described above, oblique morphology appears on wh-word, relative pronouns and personal pronouns (Spencer 2005).

(8) kis -ne / kinho -ne kitaab khariidii
who.OBL.SG -ERG / who.OBL.PL book.F.SG buy.PERF.F.SG
'who bought books?'

(9) ek laRkaa jis -ne kitaab khariidii
one boy REL.OBL.SG -ERG book.F.SG buy.PERF.F.SG
'a boy who bought a book'

A summary of the noun classes, including relative pronouns, personal pronouns (Butt & King 2004, Kachru 2006) and their oblique forms in singular and plural contexts is given below in tabular form. While the oblique forms listed in Table 1 are uniform in the context of all overt K markers, there are differences in the way some of these appear in the context of the *–ne* ergative marker. Even though this thesis does not delve into the reasons for this difference in the way oblique is encoded differently on these forms particularly in the context of the ergative marker, it may be a worthy subject for further research.

Table 1: Nominal classes and their oblique forms

Stem	**Meaning**	**In the context of null K**		**In the context of all Overt K forms except *-ne***		**In the context of *-ne***	
		SG.	**PL.**	**SG.OBL.**	**PL.OBL.**	**SG.OBL.**	**PL.OBL.**
laRkaa	boy (M)	laRkaa	laRke	laRke	laRkoN	laRke	laRkoN
laRkii	girl (F)	laRkii	laRkiyaaN	laRkii	laRkiyoN	laRkii	laRkiyoN
aadmii	man (M)	aadmii	aadmii	aadmii	aadmiyoN	aadmii	aadmiyoN
kaun	who	kaun	kaun	kis	kin	kis	kinho-ne
jo	who (relative pronoun)	jo	jo	jis	jin	jis	jinho-ne
ye	s/he/it/this (proximate)	ye	ye	is	in	is	inho-ne
vo	s/he/it/that (distant)	vo	vo	us	un	us	unho-ne
mE	I	mE	ham	mujh/ mere	ham/ hamaare	mE-ne *mujh-ne *mere-ne	ham-ne *hamaare-ne
tuu	you (informal/ disrespectful)	tuu	tum	tujh/ tere	tum/ tumhaare	tuu-ne *tujh-ne *tere-ne	tum-ne *tumhaare-ne
tum	you (casual)	tum	tum	tum/ tumhaare	tum/ tumhaare	tum-ne *tumhaare-ne	tum-ne *tumhaare-ne
aap	you (respectful)	aap	aap	aap	aap	aap	aap

There are a few exceptions to the general rule of phonological form of a noun determining its oblique form. Examples of *–aa* ending masculine singular nouns that do not take the oblique form even in the context of overt K morphology include: *raajaa*

'king' and *raajmaa* 'kidney beans'. Besides, kinship terms such as *bhaiyaa* 'brother', *daadaa* 'paternal grandfather', *naanaa* 'maternal grandfather', *caacaa* 'father's younger brother', *maamaa* 'mother's brother' also do not take oblique form[1].

2.3 Oblique concord in complex nominal phrases

A characteristic of this Layer I inflection is that it manifests not only on the nominal stem but, may also appear as concord on the constituents of a modifying structure in a nominal phrase, in the presence of overt K morphology. As it will be seen in the description below, even if this modified nominal does not belong to the declension class that takes oblique inflection, the modifying constituent may inflect as a result of the K morphology on the head nominal. Demonstrative pronouns, *-aa* ending adjectives, the *–kaa* postposition, the *vaalaa* particle, non-finite participles modifying a nominal, and non-finite participles modifying a predicate are some of the other class of structures that appear in Layer I inflectional form.

Demonstrative pronouns for both proximate and distant referents have a suppletive form in the context of overt K as was seen in Table 1 above. Unlike the nominative form, the oblique form marks number feature concord.

(10) ye / vo laRkii seb khaa rahii hE
this / that girl apple eat PROG.F.SG AUX.PRS.3P
'this/that girl is eating apples/an apple'

(11) **is** / **us** laRkii -ne seb khaayaa
this.OBL.SG / that.OBL.SG girl -ERG apple eat.PERF.M.SG
'this/that girl ate an apple'

(12) **in** / **un** **laRkiyoN** -ne seb khaayaa
these.OBL.PL / those.OBL.PL girls.OBL -ERG apple PERF.M.SG
'these/those girls ate an apple'

[1] Some varieties of Hindi are known to allow oblique on some of these kinship terms in informal contexts.

This oblique concord is not limited to one constituent of the modifying structure, but appears on all inflecting modifiers internal to the nominal phrase. Even if the head noun of the CNP does not belong to the inflecting class that takes an oblique form, but if the adjectives and numerals are, they inflect for oblique concord in the presence of overt K. In (14) below, the demonstrative and the adjective are seen in their oblique form in the context of a *–ne* marked subject, as is the numeral modifier in the context of a *–ko* marked object.

(13) ye achaa baccaa paaNc rumaal khariid
this good.M.SG child.M.SG five handkerchief.M.PL buy
rahaa hE
PROG.M.SG AUX.PRS.3P
'this good boy is buying five handkerchiefs'

(14) **is ache bacce** -ne **paaNcoN rumaaloN**
this.OBL good.OBL child.OBL.SG -ERG five.OBL handkerchiefs.OBL
-ko khariidaa
-ACC buy.PERF.M.SG
'this good child bought all five handkerchiefs'

(15) **in ache baccoN** -ne **gaNde**
these.OBL good.OBL children.OBL -ERG dirty.OBL
puraane rumaaloN -se gaNdii
old.OBL handkerchiefs.OBL.M.PL -INSTR dirty.F
gaaRiyoN -ko saaf kiyaa
cars.OBL.F.PL -ACC clean do.PERF.M.SG
'These good children cleaned the dirty cars with dirty old handkerchiefs'

The *-kaa* postposition and *-vaalaa* particle assume the oblique form in the context of K following the nominal modified by the *–kaa* and *-vaalaa* structures, irrespective of the semantic context in which they are used. This can be seen in (17) below. Also, they

themselves function as Layer II postpositions in their capacity to trigger oblique concord on their complements, as seen in (18) and (19).

(16) Parii -kaa bhaaii aayaa
Pari.F.SG -*kaa*.M.SG younger-brother come.PERF.M.SG
'Pari's younger brother came'

(17) Parii **-ke** bhaaii -ko kaam
Pari. F.SG -*kaa*.OBL.M younger-brother -DAT work.M.SG
karnaa hE
do.INFI.M.SG AUX.PRS.3P
'Pari's younger brother wants to/needs to work'

(18) Ram **taaze** **vaalaa** aam khaa
Ram.M.SG fresh.OBL vaalaa.M.SG mango.M.SG eat
rahaa hE
PROG.M.SG AUX.PRS.3P
'Ram is eating the fresh mango'

(19) **kitaaboN** -kaa thelaa phaT gayaa
books.OBL -*kaa*.M.SG bag.M.SG tear go.PERF.M.SG
'the bag of books tore'.

The use of *–kaa* in spatial expressions also assumes an oblique inflection, triggered by the presence of what Masica (1991) has called Layer III postpositions[2]. All Layer III postpositions in the language are mediated by this Layer II postposition, Layer I inflection appearing on both the preceding nominal and on Layer II[3].

(20) kitaab **baste** **-ke** uupar rakhii hE
book.F .SG sack.OBL.M.SG -*kaa*.OBL top keep.PERF.F.SG
AUX.PRS.3P

[2] See sections 2.4.5 and 3.7 for a discussion on the structure of Layer III postpositions.
[3] A more detailed discussion on the nature and structure of this –kaa postposition follows in Section 3.7.

'the book is kept on top of the sack'

One exception to the rule is seen when expressing a locational destination meaning, this oblique inflection may appear even in the absence of an overt K marking (Mohanan 1994, Spencer 2005, Otoguro 2006), as seen in (21).

(21) Parii –ne kabir –ko ram **-ke** **kaarkhaane** bhejaa
Parii.F. -ERG. kabir -ko ram -*kaa*-OBL workshop-OBL. send.PERF.M.SG

Also an infinitive participle marking a destination, goal or purpose takes oblique marking, even though it is not followed by overt K morphology. The nominalized characteristic of these participles (Baker 2008, Bhatt 2005) allows them to inflect for oblique like other –*aa* ending nouns.

(22) laRkaa / laRke / laRkii/ laRkiyaaN **bhaagne**
boy / boys / girl / girls run.INFI.OBL
gayaa / gaye / gayii / gayii
go.PERF.M.SG go.PERF.M.PL go.PERF.F.SG go.PERF.F.PL
'the boy/boys/girl/girls went to run'

(23) mE cake **khaane** aayii huuN
I cake eat.INFI.OBL come.PERF.F.SG AUX.PRS.1P
'I have come to eat cake'

2.4 The distribution of Layer II case morphology in Hindi:

A finite set of phrasal clitics, commonly known as case markers, mark syntactic and semantic grammatical functions in the clause structure. The presence of these postpositions makes it possible for the language to allow a relatively free word order without obscuring the grammatical relations of the nominals in a clause to the clause

structure. Traditionally in the descriptive literature these postpositions have been stated as marking formal CASE features on the nominals (Kachru 1987, Masica 1991, Mahajan 1990, among others). More recent works, however, have deviated from this strict correspondence between formal CASE properties[4] and the overt/null morphology that comprise the Layer II case markers (Mohanan 1994, Butt & King 2004). Positing these phrasal clitics to be functional heads of a KP projection, Butt and King retain the terminology of calling the *ne*, *ko*, *se* and *me/par* as ergative, accusative/dative, instrumental and locative markers. On the other hand they call complex postpositions expressing spatial relations such as *ke uupar* and *ke niice* as Ps heading PPs. On the same lines, Spencer (2005) and Otoguro (2006) take this approach further, but suggest that these postpositional clitics are non-projecting words, as posited by Toivonen for Swedish particles (Toivonen 2003), that adjoin to the edge of the NP. Owing to the non-projecting nature of these clitics, the category of the NP remains an NP even after these are adjoined. These postpositions are assumed to be selected by v projection that is fully specified for an argument structure (Kidwai 2010).

Without going into details of the merits and demerits of one approach or the other, this dissertation limits itself to what is similar to Butt & King's typological description of these phrasal clitics as postpositional heads that trigger the oblique case on its complement.

Other than the ones described below, the *–kaa* postposition that denotes the possessive relation, amongst a variety of other grammatical relations, is the only such Layer II morphological marker that shows agreement morphology. That this postposition is also distinct from the others in this finite set of items is the fact that it expresses grammatical relations in the nominal domain and not in the clausal domain. A detailed description of its use in the grammar and a possible structural configuration for it is in section 3.7

2.4.1 *-ne*

[4] See Footnote 2

Being a split-ergative language, Hindi has an aspectual split in the way it encodes the subject of a clause. In the perfective aspect, the subject of transitive and ditransitive clauses is marked with the ergative *–ne* marker as can be seen in (24) and (25) below.

(24) kabir -ne roTii khaaii
kabir.M.SG -ERG roti.F.SG eat.PERF.F
'kabir eat the roti'

(25) anu -ne kabir -ko ciTThii dii
Anu.F.SG -ERG Kabir.M.SG -DAT letter.F.SG give.PERF.F
'Anu gave the letter to Kabir'

This rule of ergative marking, however, does not apply across the board in all transitive and ditransitive clauses in the perfective aspect. As can be seen in (26) to (28) below, the same predicates when in the context of the completive marker *cuk-*, the possibility modal *sak-*, and the abilitative modal *paa-* does not trigger ergative, even when marked perfective.

(26) kabir (*-ne) roTii khaa cukaa
kabir.M.SG (*-ERG) roti.F.SG eat COMPL.M.SG
'Kabir had eaten up the roti'

(27) kabir (*-ne) roTii khaa sakaa
kabir.M.SG (*-ERG) roti.F.SG eat can.PERF.M.SG
'Kabir was able to eat the roti'

(28) kabir (*-ne) roTii khaa paayaa
kabir.M.SG (*-ERG) roti.F.SG eat get.PERF.M.SG
'Kabir was able to eat the roti'

Also, if the same predicates are embedded in a complex predicate structure, such as that in (29), the ergative marker does not appear. This is because the perfective aspect is no longer on the transitive verb, but on the embedding intransitive verb. In (30), however,

even when the perfective aspect is on a transitive predicate which embeds another transitive predicate in the complex structure, ergative marking does not appear on the subject.

(29) Kabir.M (*-ne) roTii khaa aayaa
Kabir.M.SG (*-ERG) roti.F.SG eat come.PERF.M.SG
'Kabir ate the roti and came'

(30) anu (*-ne) kitaab khariid laayii
Anu.F (*-ERG) book.F.SG buy bring.PERF.F.SG
'Anu bought the book and brought it'

This is because *laanaa* 'bring' is one of the few exceptions to transitive predicates that does not trigger ergative marking on the subject in perfective aspect, as can be seen in (31) and (32) below.

(31) parii (*-ne) bazaar -se TamaaTar laayii
Pari.F. (*-ERG) marketM.SG -ABL tomato.M.SG bring.PERF.F.SG
'Pari brought tomato from the market'

(32) laRkaa (*-ne) dillii gayaa
boy (*-ERG) Delhi.F.SG go.PERF.M.SG
'the boy went to Delhi'

Other exceptions include *mil* 'meet', *laR* 'fight' and *ban* 'become', examples of each of which are shown in (33), (34) and (35) below.

(33) ram (*-ne) sita -se milaa
ram.M.SG (*-ERG) sita.F.SG -SOC meet.PERF.M.SG
'Ram met Sita'

(34) ram (*-ne) sita -se laRaa
ram.M.SG (*-ERG) sita.F.SG -SOC fight.PERF.M.SG
'Ram fought with Sita'

(35) sita naaTak -me peR banii
Sita.F.SG drama.M.SG -LOC tree.M.SG become.PERF.M.SG
'Sita became a tree in the drama'
(Praphrase: 'Sita had the role of a tree in the drama)'

2.4.2 *-ko*

The accusative use of *–ko* on the object of a transitive verb is determined by the place of the argument in its complement on the definiteness and animacy scale. Examples of such Differential Object Marking can be seen in (36), (37) and (38) below.

(36) anu ek seb kaaT rahii hE
Anu.F.SG one apple.M.SG cut PROG.F.SG AUX.PRS.3P
'Anu is cutting one/an apple'

(37) anu seb -ko kaaT rahii hE
Anu.F.SG apple.M.SG -ACC cut PROG.F.SG AUX.PRS.3P
'Anu is cutting the apple'

(38) anu ek laRke -ko bulaa rahii hE
Anu one boy -ACC call PROG.F.SG AUX.PRS.3P
'Anu is calling a boy'

The dative use of *–ko* is seen on the indirect objects of ditransitive constructions marking a recipient/goal argument as seen in (39) below.

(39) Daakiyaa aadmii -ko ciTThii de rahaa hE
postman man -DAT letter.F.SG give PROG.M.SG AUX.PRS.3P
'The postman is giving a letter to the man'

An experiencer subject or that in a non-volitional role is also marked with a *–ko* in its dative use, as seen in (40) and (41) (from Ahmed 2006) below.

(40) Omair -ko bhuuk lagii
Omair.M.SG -DAT hunger.F feel.PERF.F
'Omair was hungry'

(41) nadya -ko zuu jaanaa paRaa
Nadya.F.SG -DAT zoo.M.SG go.INF I fall.PERF.M.SG
'Nadya had to go to the zoo'

Spatial and temporal uses of *–ko* in a prepositional sense can be seen in (42) and (43) below (from Kidwai 2010).

(42) saamaan ghar -ko pauhauNc gayaa
baggage.M.SG house.M.SG *-ko* reach go.PERF.M.SG
'the baggage reached home'

(43) cor raat -ko aayaa
thief.M.SG night.F.SG *-ko* go.PERF.M.SG
'the thief came at night'

The different semantic effects of *–ko* in the language are attributed to its origins from a Sanskrit locative meaning 'armpit, side' (Ahmed 2006) and "arise from the fact that *–ko* is a syntactic postposition relating a FIGURE to a GROUND" (Kidwai 2010).

2.4.3 *-se*

The *–se* postposition is used in a variety of semantic contexts. Its appearance in ablative, comitative, abilitative and source contexts are exemplified in (44), (45), (46) and (47), respectively.

(44) pattaa peR -se giraa
leaf.M.SG tree.M.SG -ABL fall.PERF.M.SG
'The leaf fell from the tree'

(45) anu kabir -se baat kar rahii hE
Anu.F Kabir.M -COM talk.F do PROG.F.SG AUX.PRS.3P
'Anu is talking to Kabir'

(46) Anu -se ticket khariidaa gayaa
Anu.F.SG -ABIL ticket.M.SG buy.PERF.M.SG go.PERF.M.SG
'Anu was able to buy the ticket'

(47) kabir dillii -se aayaa hE
kabir.M Delhi.F.SG -ABL come.PERF.M.SG AUX.PRS.3P
'Kabir has come from Delhi'

Besides the above, this postposition denotes an instrumental role, a passive argument, and a temporal lapse as seen in (48), (49) and (50), respectively.

(48) kabir cakku -se seb kaaT rahaa hE
Kabir.M knife.M.SG -INST apple.M.SG cut PROG.M.SG AUX.PRS.3P
'Kabir is cutting the apple with the knife'

(49) kitaab kabir -se phaT gayii
book.F.SG Kabir.M -INST tear go.PERF.F.SG
'the book was torn by kabir'

(50) mE ek ghaNTe -se intezaar kar rahii huuN
I one hour.OBL.M.SG -ABL wait do PROG.F.SG AUX.PRS.1P
'I have been waiting for an hour'

2.4.4 *-me/par/tak*

For the expression of spatial and temporal relations, the Layer II postpositions me, pe/par and tak are used in the language. They appear in (51), (52) and (53) in temporal constructions, and in (54), (55) and (56) in spatial constructions.

(51) mE ek ghaNTe -me aauNgii
I.F.SG one hour.OBL.M.SG -LOC come.FUT.1P.F.SG
'I will come in an hour'

(52) ye ghaNTii har ghaNTe -par bajtii
this bell.F.SG every hour.OBL.M.SG -LOC ring.IMPERF.F.SG
hE
AUX.PRS.3P
'This bell rings at every hour'

(53) sab log caar baje tak aaeNge
all people.M four o'clock till come.FUT.M.PL
'everybody will come till 4 o'clock'

(54) phal thEle -me rakhe hE
fruits.M bag.M.SG -LOC keep.M.PL AUX.PRS.3P
'the fruits are kept in the bag'

(55) thElaa mez -par rakhaa hE
bag.M.SG table.F.SG -LOC keep.M.SG AUX.PRS.3P
'the bag is on the table'

(56) bandar mez tak pahauNc gayaa
monkey.M.SG table upto reach go.PERF.M.SG
'the monkey reached upto the table'

2.4.5 *-ke+LOC: Layer III postpositions*

For spatial expressions in Hindi, other than the Layer II postpositions mentioned above, there is a set of complex postpositions which take an obligatory Layer II postposition, after which another lexical item appears that indicates a spatial orientation with respect to the noun in the complement of the Layer II postposition.

(57) kitaab almaarii -ke niice hE
book.F.SG cupboard.F.SG -*kaa* under.OBL be.PRS.3P
'the book is under the table'

(58) maTke -ke aNdar paanii hE
pot.OBL -*kaa*.OBL inside water.M be.PRS.3P

These spatial postpositions are known to express the orientation of an object with respect to some other entity in physical space. These entities have been respectively called 'Figure' and 'Ground' by Talmy (2000). In (57) above, *kitaab* 'book' is the figure entity whose spatial orientation (*niice* 'below') with respect to *almaarii* 'cupboard', that is the ground entity, is expressed by the complex postposition structure. The presence of the Layer III postposition is obligatorily intermediated by the *–kaa* Layer II postposition in its oblique form. That Layer III postpositions trigger oblique concord on Layer II postpositions is substantiated by the fact that like all other *–kaa* modifier structures (See section 3.7), this *–kaa* also shows agreement with its modified nominal head as part of a complex postpositional structure. As can be seen in (59) below, *-kaa* shows an agreement with *taraf/or* 'towards'.

(59) laRkaa dukaanoN -kii taraf/or gayaa
boy shops.OBL.F.PL -kaa.F towards go.PERF.M.SG
'the boy went towards the shops'

This may be a cause for the oblique morphology appearing on the masculine singular form on (57) and (58) above. This agreement on *–kaa* may further be justified by the historical fact that the origin of postpositions such as *niice* and *uupar* in Hindi is from nouns (Payne 1995). The Layer III postpositions can then be assumed to have nominal

properties. The oblique concord, on the other hand, that these postpositions trigger on the Layer II marker suggests they are specified in the lexicon for gender values. This argument, however, needs to be explored further as spatial relations are not the only ones expressed by Layer III postpositions. The semantic role of beneficiary and the 'about' meaning are also expressed by such complex structures, as seen in (60) and (61) below.

(60) Sita ram -ke liye tohfaa layii
Sita.F.SG Ram.M.SG -*kaa*.OBL for gift bring.PERF.F.SG
'Sita brought a gift for Ram'

(61) ye picture phuuloN -ke baare me hE
this picture flowers.OBL -kaa be.PRS.3P
'This picture is about flowers'

Besides, the spatial orientation may metaphorically be extended to express temporal orientation, as seen in (62) and (63) below.

(62) mE caar baje -ke baad aauNgii
I.F four o'clock -*kaa* after come.FUT.1P.F.SG.
'I will come after 4 o'clock'

(63) mE caar baje -ke pehle aauNgii
I.F four o'clock -*kaa* before come.FUT.1P.F.SG.
'I will come before 4 o'clock'

Thus it suffices here to say that the Layer III postpositions are complex structures that are intermediated by Layer II morphology, each of which in turn triggers oblique concord on its complement.

2.5 Verb agreement in the clause structure

Three predominant factors operate in coordination to define the verbal agreement pattern in the language: first, the constituents of the verbal structure where agreement appears,

second, the nominal in the clause with which agreement occurs, and third, which specific features of this nominal manifest on which constituent of the verbal structure. Constituents of verbal structure on which agreement may appear include the main verb participles in their future, imperfective/habitual and perfective forms, aspectual and modal auxiliaries, tense marking copula, the V head of a N+V complex predicate, and the higher V head of a V_1+V_2 mono-clausal complex predicate. Agreement is with the highest nominal in the domain of the agreeing verb unmarked by an overt morphological case marker, the presence or absence of which is determined by a combination of DOM, transitivity and aspect of the clause. As will be seen in the detailed discussion that follows, each of the ϕ features of the NP agreement controller may not manifest itself morphologically with all of the agreeing constituents, the reasons for which may have to do with the properties of these constituents and the syntactic configurations in which they appear.

Gender and number agreement on main verb participles in their future, imperfective/habitual and perfective forms can be seen with the subjects in the intransitive structures in (64), (65) and (66) below.

(64) pari bhaagegii
Pari.F run.FUT.F.SG
'Pari will run'

(65) laRke bhaagte hE
boys run-IMPERF.M.PL AUX.PRS.3P
'Boys run'

(66) pari bhaagii
Pari.F. run-PERF.F.SG
'Pari ran'

In transitive structures in the same tense and aspect conditions as above, agreement remains with the subject, as seen in (67) and (68), with the exception of the perfective participle in (69).

(67) kabir roTii khaaegaa
Kabir.M roti.F.SG eat-FUT.M.SG
'Kabir will eat bread'

(68) gita taale kholtii hE
Gita.F locks.M.PL open-IMPERF.F.SG AUX.PRS.3P
'Gita opens the locks'

(69) ram -ne davaaii khaaii
Ram.M -ERG medicine.F.SG eat-PERF.F.SG
'Ram ate medicine'

The agreement in (69) is with the object, the subject rendered unavailable for agreement by the presence of the ergative marker, which in turn is triggered by the perfective participle. Further in the discussion, this phenomenon will be seen to be part of a larger condition on verb agreement in Hindi that renders an argument invisible for agreement.

Similarly, as seen in (70) and (71), agreement on the progressive aspect marker and the possibility modal is in gender and number, and in the presence of these auxiliaries the main verbs remain unmarked for any agreement and appear in their bare form. The copula marking past tense also agrees in gender and number with the same nominal unlike the present tense auxiliary in (65) and (68).

(70) pari taalaa khol rahii thii
Pari. F. lock. M.SG open PROG.F.SG AUX.PST.F.SG.3P
'Pari was opening the lock'

(71) avi roTii khaa saktaa thaa
avi.M bread. F.SG eat can-IMPERF.M.SG AUX.PST.M.SG
'Avi could have eaten the bread'

Under the minimalism approach to understanding the derivation of a syntactic structure (Chomsky 2000), this agreement pattern can be accounted for by resorting to the operation AGREE as adopted by Bhatt (2005) reproduced below in (72).

(72) AGREE is the process by which a head X^0 with unvalued uninterpretable features (the Probe) identifies the closest Y^0/YP in its c-command domain with the relevant set of visible matching (i.e. nondistinct) interpretable features (the Goal), and uses the interpretable features of Y^0/YP to value its uninterpretable features.

The finite T^0 looks in its c-command domain for a set of interpretable features to value its own set of uninterpretable features. Subject agreement in the sentences in (64) to (71), takes place in this manner, with the exception of (69), where agreement is with the object. Taking the tense auxiliary to merge in the vicinity of T, the agreed with features appear on this head. Further, assuming for now that the different aspectual heads merge in the vicinity of *v*, Bhatt discusses two possible ways in which these participle forms agree as well. One possibility is that T^0 and the Asp head comprise of two probes that distinctly agree with the goal, and the second possibility is that the finite T^0 is the only probe that covaluates the participle's unvalued ϕ-features. With facts from Long Distance Agreement constructions, in which it is impossible to have an embedded infinitive and the matrix verb have agreement with different nominals in the structure, he sides with the latter choice.

Apart from the complex verb constructions in (70)[5] and (71) above, there are a number of other complex structures in Hindi which may express more than one event within a mono-clausal verb structure, such as in (73) below.

(73) Sita darvaazaa khol kar axbaar
Sita.F door.M.SG open do newspaper.M.SG
paRhne gaii
read-INFI-OBL go-PERF.F.SG

[5] The progressive marker in Hindi literally means 'stay', but has been grammaticalised in the language to express progressive aspect, to the extent that it is refered to as a progressive marking auxiliary verb. Hence the reference to the structure in (70) as a complex predicate structure.

'Sita, having opened the door, went to read the newspaper'
(Sita opened the door and went to read the newspaper)

In (73), there are three verbs, depicting three events: opening the door, reading the newspaper, and going. Agreement in this structure though can only be seen on the finite form of the matrix verb with the subject. The *–kar* 'do' projection in its bare form appears to take a bare VP as its complement, and the second verbal complex, even though includes a projection for the infinitive, lacks a structural Case position. Without going into details of the event structure that this complex predicate entails, it suffices here to say that both the embedded verbal projections appear to add modifying content to the matrix event and lack the necessary configuration for a Probe (v projection) to allow for phi-feature agreement.

An observation that can be seen across the examples above is a lack of person agreement on some of the verbal constituents that carry agreement features. The future tense participle in (64) and (67), and the tense auxiliaries in (65), (68), (70) and (71) are the only constituents in which person agreement appears. All other verbal constituents seem to lack an agreement in person feature as can also be seen in (74), (75) and (76) below.

(74) mE roTii khaataa huuN
I(M) bread.F.SG eat-IMPERF.M.SG AUX.PRS.SG.1P
'I (M) eat bread'

(75) mE taalaa khol cukii huuN
I(F) lock.M.SG open COMPL.F.SG AUX.PRS.SG.1P
'I (F) have (already) opened the lock'

(76) tum ram -se mil saktii
you(F) Ram.M.SG -INST meet can-PERF.F.SG
ho
AUX.PRS.2P
'You (F) can meet Ram'

The imperfective participle in (74), the completive aspect marker in (75) and the modal auxiliary in (76), all agree in gender and number only, whereas the present tense marking auxiliary agrees in person as well with the nominal controlling agreement, which is the subject in each of these cases. This limited agreement in person feature on verbal constituents can be explained in terms of Baker's (2008) universal condition reproduced in (14).

(77) Structural condition on Person Agreement

A functional category F can bear the features +1 or +2 if and only if a projection of F merges with an NP that has that feature, and F is taken as the label for the resulting phrase.

By this condition the structural conditions under which person agreement may or may not take place essentially relates the person agreement phenomenon to a Spec-head configuration. More specifically, other than in a Spec-head configuration outside the vP projection agreement may only be partial, that is only in gender and number. Lack of an EPP feature on v and the presence of the same on the projection of T allow a nominal to adjoin to it.

Baker argues for SCOPA resorting to basic asymmetries in lexical categories and the kind of syntactic configurations that each of them may be a part of to allow/disallow complete agreement with the agreed with nominal. Evidence is provided for the same from languages across language families in different kinds of structures such as partial agreement on predicate adjectives (Swahili, Hindi , Spanish, Arabic, Mayali and Tariana), partial agreement with *wh*- expressions in [Spec, CP] (nonstandard English), the impossibility of number and gender/animacy agreement with the first person theme argument in double object constructions in structures like 'She sent me to him' (Nahuatl, Southern Tiwa and Shanmbala), the impossible long distance agreement with a first person object in a gerund construction (Lokaa), and Dative subject constructions with first or second person objects (Chicasaw and Icelandic). Of all of these structures, SCOPA can most clearly be seen to operate in Hindi in predicate adjective constructions.

(78) tum sab laRke lambe ho

you all boys-OBL tall.M.PL AUX.PRS.2P

'All you boys are tall'

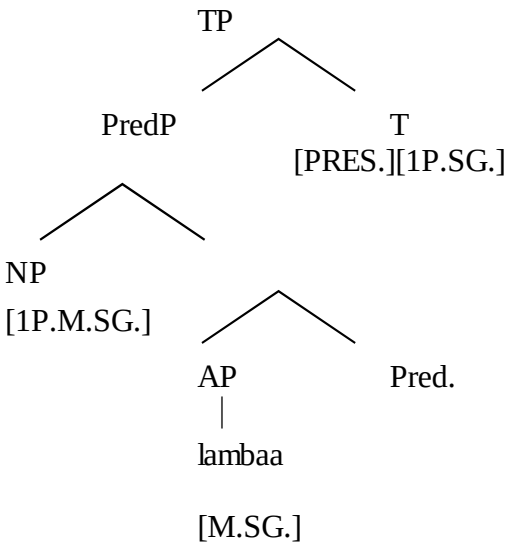
(79) mE lambaa huuN

I(M) tall.M.SG AUX.PRS.SG.1P

'I (M) am tall'

The derivation of the above constructions from Pareek et al. (2016) in (80) below shows the *–aa* ending adjective agreeing in gender and number, but not in person, with the subject. The subject which merged to [Spec,PredP] is not in a position to control person agreement which predictably takes place in the vicinity of T. Only when the EPP feature of T allows this nominal to merge with it that person agreement is licensed, hence its appearance on the tense auxiliary that also merges in the vicinity of T.

(80) *mE lambaa huuN*



The operation of SCOPA in double object constructions cannot be clearly seen in Hindi as both theme direct objects and goal indirect objects are necessarily *–ko* marked, if in first or second person owing to their prominence on the Animacy and Definiteness scale (Aissen 2003) as can be seen in (81) and (82) from Pareek et al. (2016).

(81) ravi -ne mujh- -ko dillii
Ravi.M -ERG I.OBL.(F) -DAT Delhi.F.SG
bhejaa hE
send-PERF.M.SG AUX.PRS.3P
'Ravi has sent me to Delhi'

(82) ravi -ne billii mujh -ko
Ravi.M -ERG cat.F.SG I-OBL.(M) -DAT
dii hE
give-PERF.F.SG AUX.PRS.3P
'Ravi has given me the cat'

Agreement with a first or second person subject or object in an LDA structure will be blocked for the same reason as in the ditransitive structure.

(83) gita tum -ko bulaanaa
Gita.F.SG you(M) -ACC call.INFI
caahtii hE / *ho
want.IMPERF.F.SG AUX.PRS.3P / *AUX.PRS.2P

In dative subject constructions, where the subject is morphologically marked by the dative, as well as other non-nominative subjects in Hindi are not the appropriate instances to check for the operation of SCOPA.

(84) mujh- -ko bhuuk
I-OBL -DAT hunger.F
lagii hE / *huuN
feel-PERF.F AUX.PRS / *AUX.PRS.1P.SG
'I am hungry'

(85) tum -se caae ban paatii
you -INST tea.F.SG make get-IMPERF.F.SG .
hE / *ho
AUX.PRS.3P / *AUX.PRS.2P.SG
'You are able to make tea'

In (84), the dative subject having overt case morphology does not control agreement, rather gender and number agreement is with the nominal in the complex N+V predicate. The abilitative subject in (85) being unavailable, the object controls agreement in gender and number.

The additional factor influencing the agreement pattern in Hindi that emerges from the discussion above is the well-known condition that makes nominal phrases invisible to the agreement processes by the presence of morphological case marking. This condition, referred to as CBAC in Pareek et al. (2016) is as follows:

(86) The Hindi Case Blocks Agreement Condition (CBAC)
Overt case marking renders the phi-features of nominal phrases invisible for agreement (i.e. to T and v probes)

Where subject does not have overt case marking in nominative subject contexts, agreement is with the subject. If the subject is overtly case marked in non-nominative subjects structures, such as those in (84) and (85), including ergative subjects, such as those seen in (81) and (82), the agreeing projections will look for the next available non-case marked nominal in its domain to agree with. Further, if no non-case marked nominal is available in the domain of agreement, the verbal projections will take on a default agreement form, that is, [3P.M.SG]. In (87), where the object is *–ko* marked for differential object marking, this default agreement appears on the perfective participle as well as the tense marking auxiliary.

(87) ham -ne billii -ko dekhaa thaa
we -ERG cat.F.SG -ACC see-PERF.M.SG AUX.PST.M.SG
'We had seen the cat'

The discussion above concludes that a combination of SCOPA and CBAC operates to determine not only which nominal controls verbal agreement in the Hindi sentence structure, but also which nominal features are manifested in the verbal constituents in the process of the derivation.

2.6 Conclusion

This chapter covers a description of case and verb agreement morphology in the Hindi grammar. Case marking in the non-formal sense has been treated in this thesis as consisting of oblique case and phrasal clitics marking grammatical roles of an argument. Oblique case, the appearance of which is triggered by the presence of an external morphological element, has been termed as concord. This oblique concord has been shown in this chapter to appear not only on the noun but, also on the modifying constituents in case any of these belong to the inflecting class of lexical items. A finite set of Layer II morphological markers available in the language are described as postpositions marking the syntactic and semantic role of an argument in the clause structure. As discussed, some of these may encode various semantic roles on an argument. The phenomenon of verb agreement is then discussed, detailing the various factors responsible for its manifestation in the verbal constituents. The clause structure of a predicate, the aspectual context, and the structural configuration of the arguments determine which argument controls agreement. Besides the syntactic configuration determines which values of a feature bundle manifest themselves on which verbal constituents.

Chapter 3

Nominal modification and Agreement

3.1 Introduction

Modification of nominal phrases in Hindi occurs through demonstrative pronouns, quantifiers, adjectives, nominal modifiers with the intervention of the *-kaa* marker or the *-vaalaa* particle, and participial modifiers. Of these, all *-aa* ending modifiers (other than a nominal which is part of the modifying structure) show an agreement in gender and number with the nominal being modified. This chapter takes a look at these structures along with a discussion of the possible syntactic configurations that derive these structures and allow for partial phi-feature agreement.

In all the categories of modifiers discussed below, a uniform pattern of agreement is seen which can be explained using Baker's (2008) analysis of a parallel system of agreement existing in clausal structures as well as nominal structures. Conferring with his analysis of internal agreement in the complex nominal phrase, this agreement system is assumed to be the result of an adjective adjoining to a functional head before the resulting structure adjoins to the head nominal. The creation of a Spec-head configuration, similar to a clausal structure, with a functional projection probing upwards, instead of downwards, to look for a possible goal to agree with, allows the adjective to display agreement with the modified nominal. He resorts to the differences in the categorical properties of adjectives, nominals and verbs to explain how feature agreement may take place in the different syntactic structures that each of these categories project. In addition, SCOPA (as discussed in the previous chapter) allows for agreement with only a partial feature set in this configuration, as it restricts person agreement to only occur in a finite clause structure. The lack of an EPP feature in this spec-head configuration does not allow movement of the noun to this specifier position, thus not creating the necessary conditions for person feature agreement.

This thesis takes this agreement system as proposed by Baker for adjectives, and extends it to all categories of modifiers in the nominal structure. The modifying constituent of any category, each of which will be discussed in the following sections, is dominated by its own functional projection FP before adjoining to the NP[1]. This functional head probes upward for a partial feature agreement and as a result the modifying constituents appear with agreement features of the head noun.

This chapter comprises of various modifying structures that may appear in a complex noun phrase in Hindi. Brief discussions are presented on each of demonstrative pronouns, wh-words, quantifiers, adjectives and participle verbs as nominal modifiers. After these the *–kaa* and *–vaalaa* postpositions are discussed in some detail with descriptions of the variety of semantic contexts in which they can be used to express modification of a noun.

3.2 Nominal modification by a demonstrative pronoun

The use of a demonstrative pronoun with a nominal is limited to expressing a deictic interpretation to the nominal.

(1) ye / vo laRkaa/laRke /laRkii/laRkiyaaN
this/that boy/boys/girl/girls

While this form of the pronoun does not carry any agreement, its oblique form that appears in the presence of overt Layer II case morphology, agrees in number with the nominal.

(2) is /in laRke/laRkoN -ko
this-OBL.SG. /this-OBL.PL. boy/boys -ACC/DAT.

[1] This thesis assumes the maximal projection of a Hindi nominal phrase is an NP and does not delve into questions of whether all nominal phrases project a DP as first proposed by Abney (1987), or an nP, as proposed by Carstens (2000).

3.3 Nominal modification by a wh-word

A wh-word may be used in the place of an attributive property in a noun phrase as seen in (3) and (4) below, where gender and number agreement appears with the head noun.

(3) kaunsaa laRkaa / kaunsii laRkii /kaunse log
which.M.SG. boy / which.F. girl / which.M.PL. people
'which boy/which girl / which people'

Besides, the oblique form of *kaun* 'who' and *kyaa* 'what' show agreement in number with the head noun, even if this head noun is not overt, but implicit in the context.

(4) kis /kin –ko bhuukh lagii
who.OBL.SG. /who.OBL.PL. -DAT. hunger feel.PERF.F.
'who (SG.)/who all (PL.) felt hunger'

(5) bacce kis gaaRii -me gaye
children which.OBL.SG. car -LOC go-PERF.M.PL.
'the children went in which car'

3.4 Nominal modification by a Quantifier

Quantifiers that have an *–aa* ending and ordinal numbers agree in both gender and number with the head nominal.

(6) saarii caae / saaraa duudh
all.F. tea.F. / all.M.SG. milk.M
all the tea / all the milk

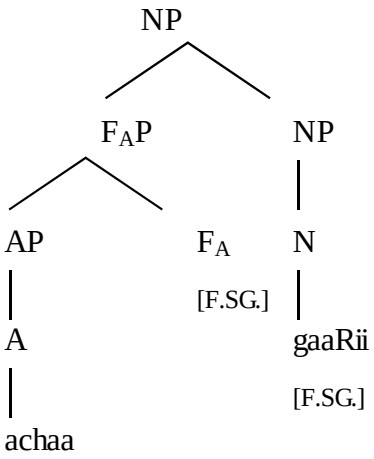
(7) duusrii tasviir / duusraa ghar
second.F picture.F.SG / second.M.SG house.M.SG
the second picture / the second house

3.5 Nominal modification by Adjectives

Like quantifiers, *-aa* ending attributive adjectives show partial phi-feature agreement with the head nominal. Baker (2008) suggests the presence of an agreement bearing functional projection F_AP dominating the AP, which is a potential probe with uninterpretable phi-features. The F_AP then adjoins to the nominal being modified and in the process finds a goal to value its uninterpretable features. The structure for (8), for instance, will then have a derivation as seen in (9) below.

(8) achii gaaRii

(9)



3.6 Nominal Modification by Participle structures

Another kind of modifying structure commonly found in Hindi is the Participle construction, which can be used to modify both nominals as well as verbal structures.

(10) [ek [hastii huii] laRkii]
one laugh-IMPERF.F.SG happen-PERF. F.SG girl
ghar aayii]
home.M.SG come-PERF.F.SG
'a laughing girl came home'

(11) [ek laRkii] [[haste hue]
one girl laugh-IMPERF.OBL happen-PERF. OBL
ghar aayii][2]
home. M.SG come-PERF.F.SG
'a girl came home laughing'
(paraphrase: while laughing, a girl came home)

The participle in (10), *hastii huii* is modifying the nominal 'girl', and the one in (11) functions as an adverbial adding modifying content to the matrix event 'come'. In both the cases the participial structure may be analysed as a reduced relative clause, that is, a verbal structure embedded under a nominalizing node (Bhattacharya 1999, Kumar 2016, among others), which in turn goes on to adjoin to a projection of the nominal or verb being modified. The difference in the two structures and their derivations is hinted towards by the presence or absence of agreement in them, as can also be seen in the difference in constituent structures of (12) and (13) below.

(12) ram [$_{NP}$ [$_{PrtP}$bhaagtii-huii] gilahrii] -ko dekh
Ram.M run.PART.F squirrel.F.SG -ACC watch
rahaa hE
PROG.M.SG AUX.PRS.3P
'Ram is watching the squirrel which is running '

(13) ram gilahrii -ko [$_{VP}$[$_{PrtP}$bhaagte -hue] dekh]
Ram.M squirrel.F.SG -ACC run.PART.OBL watch
rahaa hE
PROG.M.SG AUX.PRS.3P
'Ram while running saw the squirrel'

[2] The same modification of the event may also be expressed with a reduplicated structure as seen below:
i. ek laRkii haste haste ghar aayii
one girl laugh-IMPERF. laugh-IMPERF home come-PERF.
'a girl came home laughing'
For a description of the use of such reduplicated structures in the language, see Abbi (1991)

As a nominal modifier in (12), agreement morphology can be seen in the PrtP with the nominal subject of *bhaagtii huii*, that is *gilahrii*, which is assumed to have its origin in the underlying derivation of the PrtP[3]. Owing to this reduced relative clause internal presence allowed by reconstruction of the modified nominal head within the PrtP, agreement with *gilahrii* on the participial forms of the verb structure has already taken place before the PrtP adjoins to the object nominal of the matrix verb. Even if a head raising analysis of the reduced relative clause is assumed, CBAC does not disallow the PrtP internal agreement, as the agreed with nominal has not yet merged with the overt –*ko* marker that appears on this nominal.

As a verbal modifier in (13) on the other hand, the PrtP adjoins to a projection of the matrix verb. The object of the matrix verb *gilahrii* already carries case morphology at this point and the overt case marker blocks it for agreement by CBAC. The PrtP being a reduced relative clause is presumably dominated by a nominalizing head which acts like a phase boundary and prevents the participial verb forms from probing upwards for a goal to agree with.

3.7 Nominal modification by a –*kaa* structure

A structure modifying a nominal headed by a –*kaa* postposition encodes a variety of semantic contexts, the Possessive relation being one of them. In the discussion that follows, it will be seen that calling it a [Poss] head across the language is not only inaccurate, but excludes from its description the relational function it performs as a postposition.

Often referred to as the Genitive Layer II case marker, this postposition is distinct from the other Layer II case markers in terms of being licensed by the thematic argument selection of a nominal head, unlike the thematic roles of a clause structure (Barker &

[3] This thesis does not go into detailed analysis of reduced relative clause structures and the motivations that derive the available alternative analysis. See Bhatt (2002, 2006) for details in terms of the modified head originating in a relative clause internal position.

Dowty 1993). This phrasal clitic is seen to inflect for agreement in gender and number with the head nominal it modifies, as seen in (14), unlike the other Layer II case morphological markers. Also *–kaa* itself inflects for Layer I oblique morphology in the context of a LayerII postposition following the nominal phrase, like the *–aa* ending adjectives in the language, as seen in (15).

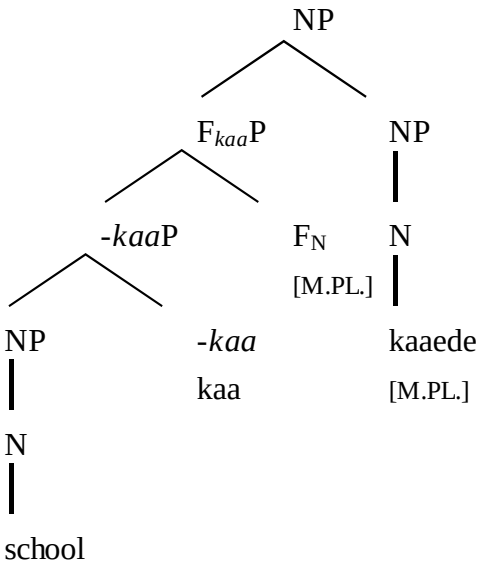
(14) milli ke / kii kapRe /kitaab
milli.F.SG -*kaa*-M.PL. / -*kaa*-F. clothes-M.PL. / book-F.SG.
'Milli's clothes/books'

(15) ache laRke -kaa baccaa
good-OBL.M.SG boy-OBL.SG -*kaa*.OBL.M.SG child-OBL.M.SG
'the good boy's child'

Given the derivation of a nominal phrase with an adjectival modifier as proposed by Baker, a Possessive structure such as that seen in (14) and (15) above, can be assumed to have a PossP projection that adjoins to a functional projection $F_N P$, which in turn then adjoins to the nominal being modified.

(16) school ke kaaede
school.M.SG -kaa.M.PL rules.M.PL
'the school rules'

(17)



The functional projection dominating the Poss head probes for the ϕ-feature set of the head nominal that it is adjoined to, and consequently has its own feature set valued.

On the Possession Modification scale proposed by Nikolaeva and Spencer (2010), while all four construction types behave similarly with respect to agreement with the modified nominal, the *–kaa* particle is used for nominal modification to express modification by noun, alienable possession, and inalienable possession[4]. Its use in each of these can be seen in (18) to (21) respectively below.

(18) Modification by Noun:

bandar	kii	kahaanii
monkey.M.SG	-*kaa*.F.SG	story.F.SG

'the monkey story'
(story of a monkey)

(19) Alienable Possession:

ram	kii	kitaab
ram.M.SG	-*kaa*.F.SG	book.F.SG

'Ram's book'

[4] The fourth construction type on this scale, what Nikolaeva and Spencer call Canonical Modification, as that by an adjective in (35), does not require the use of *–kaa*.

(20) Inalienable Possession – Kinship terms

Pari	kaa	bhaaii
Pari.F.SG	-*kaa*.M.SG	brother.M.SG

'Pari's brother'

(21) Inalienable possession – Part-whole relation/Meronym

Pari	kaa	haath
Pari.F.SG	-*kaa*.M.SG	hand.M.SG

'Pari's hand'

Besides these semantic contexts, the use of *–kaa* appears in a number of complex nominal structures that take an Infinitival complement (*koshish* 'try', *fEslaa* 'decision', *madad* 'help', *shuruaat* 'start/beginning', *salaah* ' advice', etc.). These take either a nominal as the modifying argument of *–kaa*, or an infinitive participial, which has been variously treated as nominalized by Baker (2008), Bhatt (2005), among others. In (42) and (43), agreement on *–kaa* takes place with the head nominal, like all other such complex nominal phrases.

(22)

kabir	[[bhaagne	kii	koshish]	kar]
Kabir.M	run-INFI-OBL.	-*kaa*.F	try.F.SG	do
rahaa	hE			
PROG. M.SG	AUX.PRS.3P			

'Kabir is trying to run'

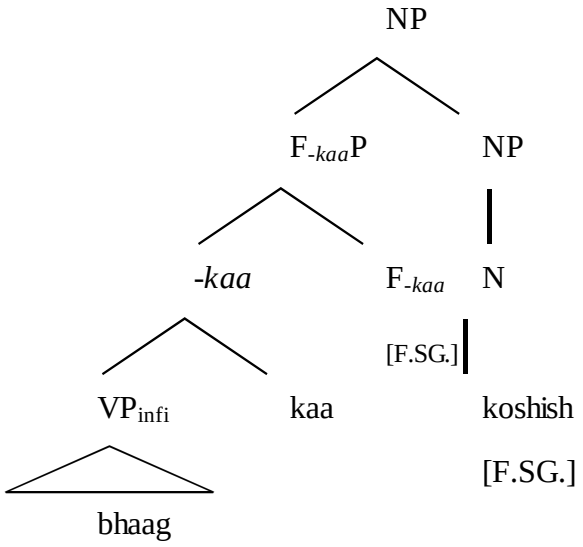
(23)

Ram	[[baccoN	kii	madad]	kar]
Ram.M	children. M.PL	-*kaa*.F	help.F.SG	do
rahaa	hE			
PROG. M.SG	AUX.PRS.3P			

'Ram is helping the children'

In terms of the constituent structure, the modifying nominal/nominalized participial with the *–kaa*, form a part of the complex predicate as can be seen in the structure (24).

(24)



While the *–kaa* postposition differs from other Layer II postpositions in the language with respect to feature agreement, it does trigger the appearance of Layer I case, that is oblique morphology on its *–aa* ending complement, as seen on the infinitive participial in (22) above.

Given the composition of the *–kaa* structure, where a derived nominal or a nominal is modifying another nominal, these complex nominal structures can be categorized as modification by noun on the Possession Modification scale.

Spatial relations in Hindi may be expressed by what Kachru (2006) has called complex postpositions comprising of Layer II and Layer III postpositions (Masica, 1991). The *–kaa* particle intervenes in these complex structures denoting a relation between a *figure* and *ground*[5] entity (Talmy, 2000, Svenonious, 2004). The Layer III case marker functions as a postposition itself and triggers oblique morphology on the *–kaa* as well.

(25)	ghaRii	kitaab	ke	uupar	hE
	watch	book.F.SG	-*kaa*-OBL	above	AUX.PRS.3P

[5] Spatial postpositions are known to express the orientation of an object with respect to some other entity in physical space.

i. "Figure is the moving or conceptually movable entity whose path, site, or orientation is conceived as available, the particular value of which is the relevant isuue."

ii. "The ground is a reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure's path, site or orientation is characterized."

'The watch is on (top of) the book'

All of the complex nominal phrases discussed above with modification by a *–kaa* structure, can be semantically characterized as denoting Part- Whole thematic relations as described by Barker & Dowty (1993)[6]: "… complementary notions of Part and Whole could serve as nuclei for semantic proto-categories that may govern nominal argument selection". In terms of their mereological properties, a possessor and possessee are the participant thematic roles in a Part-Whole relation. "The part/whole opposition must be somewhat abstractly extended to conceive of properties as metaphorical parts of the objects that possess them (speed, colour, taste, age)" (Barker, 2011). He resorts to Moltmann's idea of tropes where an abstract property is a part of the entity being attributed to[7]. By extension, the use of *–kaa* can be categorized as a Possessive marker across all the varied contexts described above: nominal modifiers, alienable and inalienable possessions, complex predicates as well as the complex locative expressions. However, this categorization of the *–kaa* particle as a Possessive marker comes into question when possessive relations are expressed with possessive pronouns in first and second person contexts. The possessive pronouns in (26) to (28) reveal asymmetries in the derivation of the possessive structure in first and second person on the one hand and in third person on the other.

(26)	vo_i	$us_{*i/j}$	-kaa	ghar	banaaegaa
	he	s/he.OBL	*-kaa*.M.SG	house.M.SG	make.FUT.M.SG.3P
	'He will make his/her house'				

(27)	$*tum_i$	$tumhaaraa_{i/?j}$	ghar	banaaoge
	you	you.GEN.M.SG	house.M.SG	make.FUT.M.SG.2P
	'you will make your house'			

(28)	$*mE_i$	$meraa_{i/?j}$	ghar	banaauNgii
	I	I.GEN.M.SG	house.M.SG	make.FUT.M.SG.1P
	'I will make my house'			

[6] Also Barker (2011)
[7] Moltmann (2004)

Even though there is no Principle B violation in (26), it is ungrammatical for the possessive pronoun to have a variable binding interpretation with the 3P pronoun in the subject[8]. By this logic, it should follow that the 2P and 1P possessive pronouns in (27) and (28) should not allow a co-indexed reading with their respective subjects. On the other hand, both the 1P and 2P referential pronouns and possessive pronouns being inherently specified in the lexicon for person features, they have to necessarily refer to the individual performing that discourse role. This suggests an asymmetry between the 1P and 2P possessive pronoun structure and the 3P possessive pronoun structure, for which the following explanation emerges. The *mer-* and *tumhaar-* forms are suppletives of *mE+kaa* and *tum+kaa*, and the F_NP projection merges with the *–kaa* projection to probes for a feature set to value its uninterpretable partial feature set. Here the *–kaa* postposition functions like other Layer II case markers, with respect to making the features of the possessor pronoun invisible for agreement. The only other possible goal for the functional projection to agree with emerges by probing upwards, for the interpretable features of the head nominal.

A further problem emerges though by assuming that *mer-* and *tumhaar-* are the 1P and 2P possessive pronouns, as these are also used as the oblique forms that are used in the presence of other Layer II case morphology (See Table 1 in Section 2.2)

(29) mere -ko/se/me/par/liye
I-OBL

(30) tumhaare -ko/me/se/par/liye
you-OBL

The only distinction between these forms and the possessive forms is the absence of any feature agreement on these forms. Keeping these facts in view, it appears that the genitive

[8] This anti-subject orientation of the possessive pronoun in Hindi has been discussed in Dayal (1994), Kidwai (2000) and Bhatt (2004) and can be accounted for by the Reflexive Preference Principle as stated in Bhatt (2004):

i. Reflexive Preference Principle: A pronominal possessor cannot be used to realize a particular variable binding relationship where a reflexive possessor is possible for realizing this relationship if the relationship is local.

morphology becomes phonologically inert when merges with the 1P and 2P pronouns, but the presence of the F_NP projection above it allows for feature agreement to take place in the possessive constructions.

The above discussion on the nature and function of the *–kaa* postposition suggests that even though coded as a genitive, this phrasal clitic is better termed as a relational marker than a possessive marker. This postposition is used in marking relational concepts across various semantic contexts including modification by nouns, by infinitive participles, alienable and inalienable possessions and spatial relations.

3.8 The Hindi *-vaalaa* particle in Nominal Modification[9]

This section discusses the distribution of the Hindi '*vaalaa*' particle with respect to nominal modification. That this commonly used clitic can be used in a variety of semantic contexts, all of which serve to form a restrictive relation between the *vaalaa* headed phrase and the modified nominal head (which may be phonologically overt, or elided depending on the context and semantic content of the nominal modified), suggests the possibility of an underlying syntactic structure. This phrasal level clitic triggers oblique morphology and shows a pattern of agreement similar to that of other nominal modifiers in Hindi.

The use of an x+*vaalaa*+N nominal phrase is a highly productive and commonly used structure for the modification of a nominal in Hindi. The *vaalaa* phrasal clitic picks out the *maximal set of the possible pairs* of <x,N> and "the -wala marked phrasal constituent is a unique element chosen from a set of contextually salient candidates" (Kidwai, 2012). Its use is "only felicitous when there is a non-trivial set of pairings" of x and the nominal

[9] The use of *vaalaa* for nominal modification is distinct from its aspectual use, that expresses an 'about to' meaning.

i. Ravi market -se aane vaalaa hE
Ravi market - INST come-INFI-OBL. *vaalaa* AUX.PRS
'Ravi is about to/going to come from the market.

Even though the construction seems similar to the Infinitive+*vaalaa*+N, with the *vaalaa* even triggering Oblique on the non-finite verb form, the infinitive participial cannot be treated as nominalized unlike when expressing nominal modification.

and the alternative candidates in the context are in contrast to the unique selection only with respect to a property denoted by x. The x may be (i) a demonstrative pronoun, (ii) a possessive pronoun, (iii) a nominal, (iv) an adjective, (v) a locative, or (vi) an infinitive participle.

With a demonstrative pronoun, the -*vaalaa* phrase expresses a deictic interpretation of the head nominal.

(31) Demonstrative pronoun+*vaalaa*+N

ye /	vo	vaalaa	darvaazaa
this /	that	*vaalaa*-M.SG.	door.M.SG

'this / that door'

When interpreted as a possessive relation between x (the possessor) and N (the possessed) as in (32), pronouns must necessarily take the *–kaa* postposition when selected by -*vaalaa*, whereas nominal expressions need not (Kidwai 2012).

(32) Possessive Pronoun+*vaalaa*+N

merii	/tumhaarii	/laRke	(?kii[10])	/us[11]	*(kii)
1P.GEN.F.	/2P.GEN.F.	/boy-OBL.	(?-*kaa*-F.)	/ that-OBL	*(-*kaa*-F.)
vaalii	kitaab				
vaalaa-F	book				

'my / your / the boy's / his/her book'

(33) Nominal+*vaalaa*+N

Dabbe	vaalii	aurat
box-OBL.M.SG	*vaalaa-F*.	woman

'the woman with the box'

Where x in the *vaalaa* structure is an adjective or a locative expression, the structure is interpreted as a property attributed to the nominal.

[10] Felicitous for some Hindi speakers, but not all.

[11] The construction is felicitous when *us* is used as the Oblique version of the demonstrative *vo*, such as in (42), but not when the third person pronoun is expressing a possessor relation in the *vaalaa* structure.

(34) Adjective vaalaa N

acche	vaale	bacce
good-M.PL.	*vaalaa*-M.PL.	children.M

'the good children'

(35) Locative postposition+vaalaa+N

school	ke	paas	vaalaa ghar
schoolM.	-*kaa*.OBL.	near	*vaalaa* house.M.SG

'the house near the school'

Whichever category the x in the *vaalaa* structure may belong to, its use is felicitous only if there exists in the context at least one other entity denoted by the nominal which has a property in contrast to x, that is, there exists at least one other N_y in the domain of discourse such that it has a property y in contrast to x. The nominal phrase in (34) refers to *the good children*, that is, out of a set of children in the domain of discourse, it refers to the sub-set of the children with the property *good*, as against a non-empty set of *not-good children*. Similarly, in (35) the use of the *vaalaa* structure would be infelicitous if *the house near the school* was the only house in the domain of discourse, or there were no other houses in the domain of discourse which are *not near the school*.

Treated by the syntax as nominalized (Bhatt 2006, Kidwai, 2012), the Hindi infinitive followed by *vaalaa* is interpreted as a restricted reference to the subject of the infinitive, as can be seen in (36). In contrast, the non-finite structure may also function as denoting a property to a non-subject nominal in (37).

(36) Infinitive *vaalaa* N

bhaagne	vaalaa	baccaa
run-INFI.OBL	*vaalaa*-M.SG	child.M

'the running child'

(37) saamaan rakhne vaalii almaarii

luggage.M.SG	keep-INFI.OBL.	*vaalaa*-F	cupboard.F.SG

'the cupboard to keep the luggage'

To sum up the description above, the use of vaalaa phrase may be treated as a linking particle to modify a nominal with two conditions: one, the existence of at least one other contextually salient alternative; and two, the alternative must contrast with the uniquely referred to entity in terms of the property denoted by the modifying content in the complement of the *vaalaa* phrase. The use of the particle is infelicitous if no alternative referent is available in the context of discourse, at least one alternative specifically with respect to the property x being attributed to the modified nominal.

(38) harii (*vaalii) dhartii
green.F (**vaalaa*-F) Earth.F.SG
'the green Earth'

The *vaalaa* particle cannot select numerals and quantifiers.

(39) Numerals & Quntifiers
*teen / *kuch vaale kele
three / some *vaalaa*-PL. bananas.M.PL
'three / some books'

The use of vaalaa is infelicitous for inalienable relations such as body parts, kinship terms, and part-whole relations. In other words, -*vaalaa* cannot be used in contexts of relational nominals as conceived of by Barker & Dowty (1993).

(40) Alienable vs. Inalienable Possessives:
?laRkii vaalii naak
girl *vaalaa*-F. nose
'the girl's nose'

(41) ?Ram vaalii maa
Ram.M *vaalaa*.F.SG mother
'Ram's mother'

(42) ghar vaalii chat
ghar.M.SG vaalaa.F.SG roof.F.SG
'the roof of the roof'

However, if in the inalienable relation being expressed in the x+*vaalaa*+N structure, the context can provide an alternative to the modified nominal, in semantic contrast to the property denoted by x, then it may be used for body parts, kinship terms and part-whole relations.

(43) ravi -kaa baaNyaa -vaalaa haath
Ravi.M -kaa.M.SG left.M.SG -vaalaa.M.SG hand.M.SG
kata thaa
cut.PERF.M.SG AUX.PST.M.SG
'Ravi's left hand was cut'

(44) ram -kaa dillii -vaalaa bhaaii
ram.M. -*kaa*.M.SG Delhi.F.SG -*valaa*.M.SG brother
aayegaa
come.FUT.M.SG.3P
'Ram's brother from Delhi will come '

(45) ghar -kii piiche vaalii diivar
ghar.M.SG -kaa.F.SG backside.OBL vaalaa.F.SG wall.F.SG
gir gayii
fall go.PERF.F.SG
'the back wall of the house collapsed'

The fact that an alternative to the *vaalaa* expression appears to be available in the context of discourse allows its use. The additional layer of modification in Ravi's *left* hand presupposes the existence of an alternative to the nominal being modified in the form of Ravi's *right* hand; Ram's brother *from Delhi* presupposes the existence of at least one other brother who is *not in Delhi*; and the *big* window of the house presupposes the existence of at least one other window of the house with a property in contrast to the one

expressed by the x part of the x+*vaalaa*+N structure. As long as the context presupposes the existence of at least one alternative of N specifically in terms of contrast with the property denoted by x, the use of *vaalaa* is allowed.

Stacking of x+*vaalaa*-modified nominals: Two or more *vaalaa*-modified nominals, though not ungrammatical, are less likely to be used in recursive contexts. Gender and number agreement on each *vaalaa* is with the nominal being modified.

(46) ??[[[[nukkaR vaalii] dukaan vaale]
street corner.M *vaalaa*-F. shop.F *vaalaa*-PL.
darvaaze vaalaa] raNg]
door.OBL.M *vaalaa*-M.SG. colour.M.SG
'street corner shop's door's colour'

(47) ??[[[[[bhaagne -vaale] aadmii vaale]
run-INFI.-OBL. -*vaalaa*.OBL.M.SG man vaalaa.OBL.M.SG
dost vaaliii] davaaii vaalaa] Dabbaa]
friend.M*vaalaa*-F. medicine.F *vaalaa*-M.SG. box.M.SG
'the running man's friend's medicine's box'

Stacking of x+vaalaa phrases to modify ONE nominal is better. Gender and number agreement is with the one nominal being modified.

(48) [meraa vaalaa] [choTaa vaalaa] [hilne
my.M.SG *vaalaa*-M.SG small-M.SG. *vaalaa*-M.SG move-INFI.-OBL.
vaalaa] robot.M.SG
vaalaa-M.SG. robot
'my small moving robot'

Similar to argument ellipsis in the language, the nominal head being modified by a *vaalaa* phrase can be dropped, and its interpretation deduced from the discourse context and the natural gender and number agreement inflections on the *vaalaa* particle. This

omission is most common when the nominal is human and many a times the entire *vaalaa* expression is frozen in meaning and may not be used for any other referent.

(49) sabzii -vaalaa / kaam -vaalii /circus -vaale
vegetable.F -*vaalaa*.M.SG./ work.M-*vaalaa*-F. /circus.M-*vaalaa*.M.PL.
'the vegetable (seller) (M) / the work (woman) /the circus (people)'

Unlike the relational and non-relational distinction that Kumar (2016) resorts to, to analyze relativisability of arguments in Angika and Hindi, *vaalaa* expressions are better viewed in terms of Bhatt's (2006) suggestion that the *vaalaa* phrases may be subject infinitival relatives, plausibly analyzed as reduced relatives lacking any overt relative pronouns.

The relativized element is always in the subject position and cannot be in the object position, as in (50) cannot be formed with *vaalaa* to refer to the book the boy bought.

(50) *laRke -se khariidne -vaalii kitaab
boy-OBL. -INST buy-INFI-OBL -*vaalaa*-F book.F.SG
(the book bought from the boy)

The relativization is very local – only the matrix subject can be relativized, the embedded subject cannot be, as in (51).

(51) *arun kaa caahnaa jiitne vaalaa laRkaa
arun -*kaa*. want-INFI. win-INFI-OBL. *vaalaa*.M.SG boy

The clausal structure that functions as a reduced relative can appear as the complement of predicate *be*.

(52) ye kitaab biknii hE
this book.F.SG sell-INFI.F. AUX.PRS
'this book is to sell'

No complementizer is permitted:

(53)	* kitaab	khariidne	ki	vaalaa	laRkaa
	Book.F.SG	buy-INFI.-OBL.	COMP	*vaalaa*.M.SG	boy

No relative pronoun is permitted:

(54)	*kitaab	khariidne	jo	vaalaa	laRkaa
	Book.F.SG	buy-INFI.-OBL.	REL	*vaalaa*.M.SG	boy

Further evidence for the reduced relative analysis for the infinitival in a *-vaalaa* structure is provided for by the grammaticality of reflexives in the following examples, where a clause internal interpretation of the head nominal respects Condition A of binding theory.

(55)	[[[apnii$_i$	kitaab	becne]	vaalaa]	laRkaa$_i$]
	REFL.F.SG	book.F.SG	sell.INFI.OBL	vaalaa.M.SG	boy.M.SG
	'the boy who sells/sold his own book'				

Even though a diagnosis of only this kind of *vaalaa* phrase, which takes a non-finite participial as a complement, with respect to the characteristics of reduced relatives reveals it to have these characteristics, a blanket analysis for *vaalaa* structures as a reduced relative does not work. This analysis does not account for the *vaalaa* structures that take any other complements other than non-finite participles. However, if we consider *vaalaa* to be a kind of nominalizing node that allows the infinitival phrase, the AP, the NP, or the locative PP in its complement to assume nominal properties, then it follows that this *vaalaa* head must also be responsible for thematic licensing of the nominal in its complement.

The phrasal clitic *-vaalaa* then basically acts as a linking particle between a modifying nominalized structure and the modified nominal. Baker refers to the Spanish *de* and Swahili *a*, but call them functional category. Does *-vaalaa* then need a functional projection for agreement to take place like in the *-kaa* structure in the previous section, or can the *-vaalaa* projection itself allow the agreement to take place? A possible answer to

this question is that the linking particle adjoins to a functional projection that facilitates feature agreement to take place between the entire *vaalaa* projection and the head nominal. But the question arises as to why *vaalaa* does not agree with the modifying nominal that is also in its c-command domain? By itself -*vaalaa* is a lexical head that cannot agree. Only when a functional projection of F_NP adjoins to it, it functions as a probe to look for an available goal with interpretable features to value its own set of uninterpretable features. The F_N cannot agree with the modifying nominal because the lexical head of *vaalaa* intervenes like a Layer II case marker, and then the only other available goal for it to look for upwards is the nominal that this entire functional projection adjoins to.

3.9 Conclusion

This chapter concludes with the proposal that Baker's analysis for adjectival agreement can be extended to all the modifying structures in a Hindi noun phrase. The presence of a functional head that projects the same syntactic category as the modifier allows a configuration to probe upwards and seek a partial feature set of the head noun to agree with. This agreement is only partial because the nominal structure lacks the necessary conditions for person feature agreement to take place, thus restricting agreement to a partial feature set.

Chapter 4

Methodology and Procedure

4.1 Introduction

The field work for this study was done in two phases of elicited production tasks to investigate the use of overt case morphology and the application of feature agreement in the developing grammar of Hindi speaking children. Conducted in the Delhi region with a total of 46 participants, the field work was a combination of an elicited production experiment (the so-called "Case Task"), one semi-structured elicitation game (the "Bag Task") and one semi-structured picture description elicitation task (the "Agreement Task"). Data was collected for these tasks in two phases: the first phase involved the Case Task and the Bag Task and the second phase focused on the Agreement Task. Prior ethical approval for the field work was sought and received from the Institutional Ethics Review Board, Jawaharlal Nehru University, New Delhi (see an unsigned copy of a consent forms in Appendix 1 and 2).

This chapter begins with a comparative look at the different types of methods employed in psycho-linguistic research for collecting primary data. More specifically, the types of methods used in acquisition research with young children as participants are discussed. The various factors to be kept in mind when designing the methodology in an acquisition study are described in this section. These factors, including the target grammatical phenomena, the age and availability of the participants, the availability of infrastructure and technical apparatus, among other things that were kept in mind while selecting a combination of methods for this study are then discussed. The three tasks that employed in this study for collection of data are then described one by one. The participants' profiles for each of these tasks, the material used, and the procedure for conducting each task are described. Lastly, the procedure for data transcription, coding and analysis is described for each task.

4.2 Methods used in acquisition studies: A comparative look

The kinds of methods used for collecting production data in language acquisition studies may be classified as naturalistic samples, semi-structured elicitation techniques and production experiments (Eisenbeiss 2010). This section will first state some of the factors to be kept in mind while planning and designing an acquisition study, then describe the kinds of methods that may be employed with their respective merits and demerits, and will go on to discuss why a combination of methods was considered for this study.

The use of any kinds of methods, or a combination of methods will depend on a number of factors that have to be kept in mind while designing and planning a study. To begin with, a researcher needs a clear definition of the linguistic phenomena or behaviour that the study wants to capture, whether it wants to observe the developing phonological, morpho-syntactic or semantic features' comprehension or production. The appropriateness of a longitudinal study or a cross-sectional sample will vary according to the availability of time, space and the participants of appropriate age. For any data collection, the availability and access of participants in an environment congenial to audio or video recording is a crucial factor to be kept in mind. The methods employed will also vary according to the level of control or manipulation required by the researcher in the participants' production of language in order to capture the use of the targeted linguistic features. Also, the designing of an acquisition study will depend on the kind of equipment and technology available or required for data recording, transcription and analysis. Appropriateness of the stimuli, if any, in terms of the age, social and cultural norms have to be kept in mind as well. Though not in order of priority, these are just some of the factors that need to be kept in mind when planning a study in language acquisition.

Data from naturalistic samples is obtained by observing and audio/video recording a participant in her/his naturalistic setting which may be in the home or in the school (Eisenbeiss 2010, 2015). This method of data collection involves minimum interference by the researcher and has a high level of ecological validity. A naturalistic sample may be collected with the participant conversing with a parent, sibling or teacher, with who s/he

is most comfortable, with the option to start/stop the recording equipment at any time without notice of the participant. The rich and spontaneous set of data that this method may yield however may not always be comparable across participants as there is negligible control over the conversation by the researcher. If looking for the use of a specific linguistic feature, then this method has the drawback of yielding data that is subject to the participant's imagination, environmental context and choice of linguistic structures. Thus the resulting data set may or may not be representative of the participant's linguistic development. Moreover, it may not contain sufficient data for the analysis of the linguistic phenomena under study. Finally, depending on the type of conversation, the data set may involve a lot of (semi-) formulaic language. For instance, participants may use frequent frames such as "That's a X" or "Where's the Y" (Tomasello 2000, Bannard & Lieven 2009, Stumper, Bannard, Lieven & Tomasello 2011). In a family gathering situation, they may also use many greetings and social routines, such as thanking people or apologizing. This may make it difficult to evaluate whether the language used by the child is based on adult-like representations or on rehearsed formulas.

Semi-structured elicitation techniques, in contrast to naturalistic samples, offer some level of structure and control by the researcher over the conversation and the stimuli to encourage the participant to produce language closer to a targeted linguistic phenomenon (Eisenbeiss 2009, 2010). Visual or material stimuli may be used with some amount of intervention on the part of the researcher to provide input in the participant's production of language. This can ensure a reasonable amount of quantitative data across participants so as to enable a comparative analysis. It also requires speakers to use a comparatively high proportion of non-formulaic language. The participants can be encouraged or influenced by the researcher with some amount of prompting to direct the conversation in a particular direction in terms of meaning or form. Semi-structured elicitation techniques however may have the disadvantage of the participant being conscious of being observed and may also lead to some amount of training effects influencing the ecological validity of the language produced.

In a production experiment on the other hand, the researcher controls and manipulates the stimuli and other variables in the conversation to prompt the participant to produce responses that are closest to the linguistic phenomena under study (Menn & Ratner 2000, Thornton 1996, Crain & Thornton 1998). While this kind of method can be difficult to use with very young participants, unlike naturalistic samples and semi-structured elicitation techniques, it can yield a comparative set of data across participants for low frequency linguistic phenomena. Since the production of the linguistic feature under study is specific, the researcher may get a targeted set of concentrated data to analyse. The amount and variation of priming on the part of the researcher, on the other hand, may reduce the ecological validity of the data, as it may not always be accurately representative of the linguistic knowledge and competence of the participant.

For the purpose of this cross-sectional study, a combination of semi-structured elicitation techniques and production experiment was employed:

- The Case Task is a picture-based elicited production experiment that targets the use of overt verbal and possessive case morphology and can be used from the age of 3 years. (See Section 4.3). This task was developed as part of the cross-linguistic COST Action IS0804 "Language Impairment in a Multilingual Society: Linguistic Patterns and the road to Assessment" (Ruigendijk 2015, www.bi-sli.org)
- The Bag Task is a semi-structured elicitation technique that was adapted from Eisenbeiss (2009) that makes use of bag with detachable pockets and a set of contrasting toys (see Section 4.4). Unlike the Case Task, this task was easier to conduct with younger participants from the age of 2 years.
- The Agreement Task employs newly developed pictorial stimuli in a picture description and story-telling format (see Section 4.5). The input provided by the researcher was limited to prompt an uncommunicative participant to begin the narrative, or to provide a clue about an event or character in the stimuli. Since the stimuli and the researcher's input were restricted to providing the semantic contexts for language production, this task exercised very little control over the utterance types in the corpus of data.

4.3 Case task

As mentioned above, the Case Task is a picture-based controlled elicitation experiments that involves two sets of picture-pairs. The first picture set targets the use of nominative, ergative, accusative/dative, instrumental/sociative, and genitive markers in transitive (V_t) and ditransitive (V_{dt}) sentences with full definite noun phrases. The second picture set targets the use of the genitive marker in possessive constructions.

4.3.1 Participants

The Case Task experiment was conducted with 34 participants in 6 locations in Delhi, which comprised of 2 schools (1 pre-primary school and 1 elementary school), 1 residential university campus, and 3 residential localities. Each session of the experiment was video recorded. Of the 34 participants, 5 recordings were rendered unusable due to technical reasons, and for 8 participants the task could not be completed. The reasons for not completing the tasks ranged from unavailability of participant for additional time, lack of interest shown by the participant, or shy/uncommunicative participant. Usable recordings from 21 participants, therefore, were included in the study.

All 21 participants for the experiment were from Hindi speaking households growing up in Delhi, with Hindi as their first language. Educated parents from middle class socio-economic backgrounds meant that most of the participants had a certain amount of exposure to English as well. Even though parents of 11 participants claimed the participating child to be a mono-lingual Hindi speaker, none of them was observed to be strictly mono-lingual, due to the heavy influence of English that is prevalent in the region and consequently in the children's environment (English medium schools, use by parents/caregivers, various sources of popular media). Out of 44 parents, 32 claimed

Hindi as their mother tongue, 4 Urdu, 2 Punjabi, 2 Gujarati, and 4 Oriya. The youngest participant was of age[1] 3;5 and the oldest was 5;11, 10 being boys and 11 girls.

Table 1: Summary of Participants in Case Task

S. no.	Initials	Gender	Age	Child Lgs	Mother MT	Mother Other lgs	Father MT	Father Other lgs	Home Other lgs
1.	CP	M	3;5	Hindi	Hindi	English Kannada	Hindi	English	-
2.	ST2	M	3;7	Hindi Urdu English	Urdu	English Hindi	Urdu	English Hindi Persian	-
3.	RG1	F	3;7	Hindi Punjabi	Punjabi	Hindi English	Hindi	English	-
4.	AG1	M	3;7	Hindi Punjabi	Punjabi	Hindi English	Hindi	English	-
5.	SS1	F	3;9	Hindi	Hindi	English Marathi Urdu Arabic	Hindi	English Marathi	-
6.	RG2	M	4;3	Hindi English	Hindi	English	Hindi	English	-
7.	SR	F	4;4	Hindi English Gujarati	Gujarati	Hindi English	Gujarati	Oriya Hindi English	-
8.	TA	F	4;7	Urdu Hindi Bhojpuri Russian English French	Urdu	Hindi Persian English	Urdu	Hindi Bhojpuri Persian English	-
9.	HA	F	4;7	Hindi	Hindi	-	Hindi	English	-
10.	RM	F	4;7	Hindi	Hindi English	Sanskrit	Hindi English	-	-
11.	AS	F	4;7	Hindi English	Hindi	English	Hindi	English	-
12.	TB	M	4;9	Hindi	Hindi	English	Hindi	English	-
13.	KR	F	5;0	Hindi English	Hindi	-	Hindi	-	English
14.	NK	M	5;1	Hindi English	Hindi	Punjabi English	Hindi	Punjabi English	-

[1] The age of the participants is referred to in Y;MM format throughout this thesis, unless otherwise specified.

15.	HSS	M	5;3	Hindi Oriya	Oriya	Hindi English	Oriya	Hindi English Telugu Bangla	-
16.	HP	M	5;5	Hindi	Hindi	English	Hindi	English	-
17.	SS3	F	5;6	Hindi	Oriya	Hindi English	Oriya	Hindi English	-
18.	IS	F	5;6	Hindi English	Hindi	English Punjabi	Hindi	English Punjabi	-
19.	AG2	M	5;8	Hindi English	Hindi	English	Hindi	English	-
20.	SM	F	5;9	Hindi	Hindi	-	Hindi	English	-
21.	AKS	M	5;11	Hindi	Hindi Bhojpuri Maithili	English Sanskrit	Hindi Bhojpuri	English Sanskrit	-

4.3.2 Material

The Case Task was adapted for use in the Hindi language from Ruigendijk's (2015) contrastive elicitation task, which was originally designed to capture the use of overt case morphology in typologically different languages. Through a targeted sentence production this task used a picture description technique to elicit complete sentences with nominative, accusative, dative, genitive and ablative case morphology. The verbs for the task selected for use of these case markers included 2 practice items (1 transitive and 1 ditransitive), 6 transitive verbs that take nominative subjects and accusative objects, and 5 ditransitive verbs that take nominative subjects, accusative direct objects and dative indirect objects. Besides these, there were 5 verbs that are known to take dative objects in different languages, and for a second part of the task there were 6 items that targeted the use of the genitive in possessive constructions. Picture pairs were used for each verb, with different characters for subjects and objects/indirect objects, so as to prevent the use of pronouns or argument ellipsis. In these picture pairs for the verbs all subjects and objects were human, half of them being masculine and the other half feminine. For the ditransitive verbs, easily identifiable inanimate objects were used for direct objects, and all the indirect objects were masculine humans. Using human characters for the pictures makes it possible to control for gender in cross-linguistic projects. Gender assignment

may vary across languages, but many languages have gender classes based on natural gender for humans. Thus by having an equal number of male and female characters in the stimulus material, researchers are likely to gain data about gender assignment if the language in question exhibits this phenomenon.

Figure 1. Picture for *dhakkaa de* 'push'

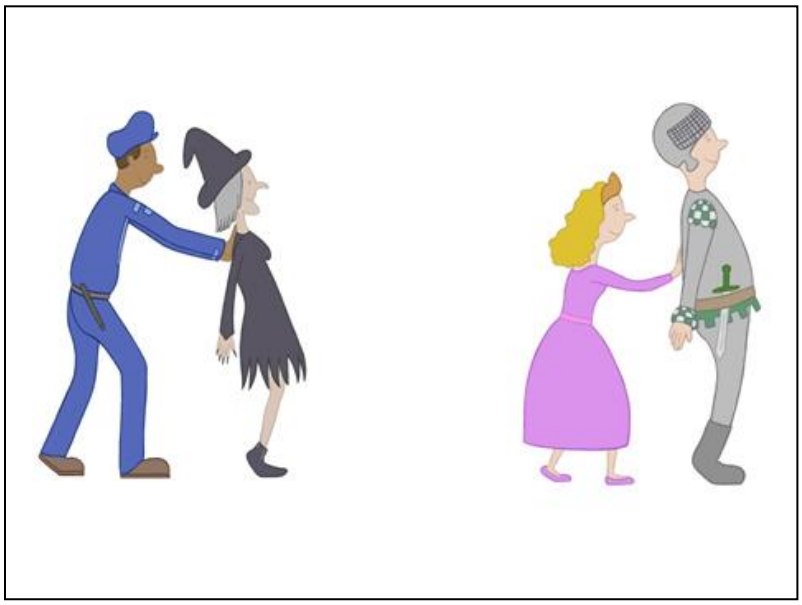
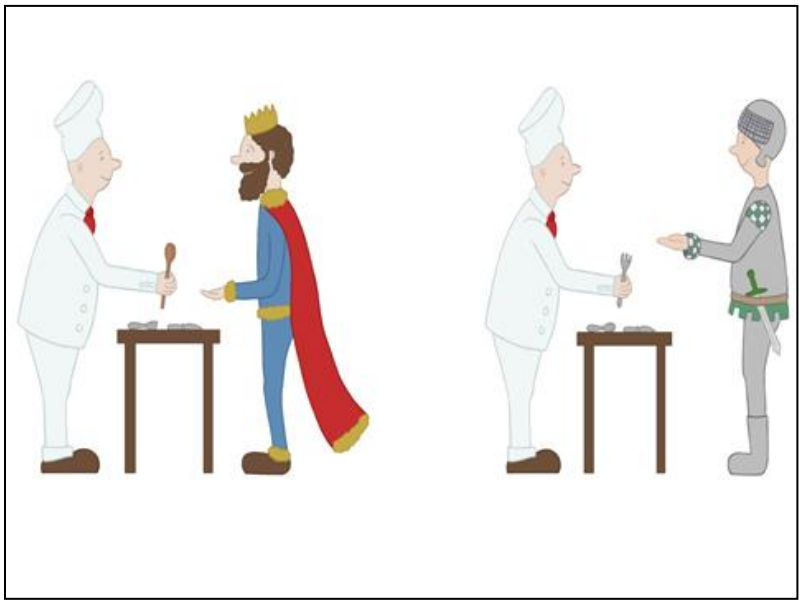


Figure 2. Picture for *de* 'give'



Since the task was originally part of a cross-linguistic study, the set of images and the corresponding target set of verbs were retained unchanged for the Hindi language. However, in order to use this task (including both sub-parts) in the context of Hindi, minor adaptations were required. These adaptations were required not only for the task to be culturally and socially appropriate but also appropriate to capture the intricacies of Hindi complex predicate structures that the images in the task represented. That Hindi is a split-ergative language that requires the use of the ergative marker in transitive and ditransitive clause structures in the context of perfective aspect only, also needed to be encapsulated in the task design.

To begin with, of the 6 transitive verbs with nominative-accusative argument structures, 5 were selected for use and 1 left out of the task[2]. Also the verb 'congratulate' was changed to 'shake-hand', as it was easier to comprehend in the picture for the participants. Next, some of the professions used in the pictures would have been unidentifiable by children in the Indian context (for instance a policeman, a fireman and a postman would have different coloured uniforms in India, and a knight, a witch and a fairy would have been unfamiliar characters). In order to overcome this hurdle, some of the character names were introduced by the researcher in the form of 'who do we have here? There is a policeman, and there is a fireman', before the participant could describe the event in the picture. In case this approach did not work with some of the characters, the researcher encouraged the use of generic nouns such as 'man', 'woman', 'girl' and 'boy' (see Table 2 below for details).

For a number of the transitive verbs used in the task, the Hindi translations consisted of a Noun+Verb complex predicate structure. Some of these verbs were not familiar to the participants (for example, *piichaa karnaa* 'follow'), and some others were used with a different argument structure. For example, for *gale lagaanaa* 'hug', some participants used an intransitive structure such as 'they both are hugging'. In such cases, the researcher tried to introduce the predicate using prompts that did not reveal argument structure patterns, for instance *ye tasviir to gale lagaane ke baare me hE, ye laRkii…*

[2] The verb left out 'catch' was found to be inappropriate for use in the Indian context as the participants would be unable to identify a butterfly net in the images.

kyaa…? 'these pictures are about hugging, this girl… what…?'[3]. However, the use of complex predicates did add a layer of complexity to understanding the use of agreement and overt case morphology in the developing grammar of the children.

Table 2: Target list of verbs in Case Task[4]

Type of verb[5]	**Argument structure of verb**	**Simple Predicate**	**Complex predicate**
V_t	Nom-Acc	1. khiiNc (pull) 2. nehlaa (bathe) (practice)	1. dhanyavaad keh (thank) 2. bye kar 3. dhakkaa de (wave) 4. gale lagaa (push) 5. kiss kar (hug) 6. gudgudi kar (kiss) (tickle)
V_t	Nom-Gen	-	1. madad kar (help) 2. piichaa kar (follow)
V_t	Nom-Soc	-	1. haath milaa (shake-hand)
V_{dt}	Nom-Dat-Acc(Null)	1. likh (write) (practice) 2. dikhaa (2) (show) 3. de (2) (give) 4. bhej (send)	-

In order to capture the use of the ergative marker in the language, it was necessary to target the aspectual split in Hindi that necessitates the subject of a transitive and ditransitive clause to be marked by the ergative in the perfective aspect. Since all the pictures in the task were of an ongoing event, an added round of the task was added to capture this split (See details of procedure in next section)

[3] Prompts in the form of incomplete and fragmented sentences were used frequently.
[4] See Appendix 4 for a complete list of target sentences
[5] V_t refers to transitive verb and V_{dt} refers to ditransitive verb

The second part of the Case Task targeted the use of the *–kaa* marker in possessive contexts in the children's grammar. The material for this task included a picture pair of a boy and a girl, each having a cupboard with 6 items each, and 6 picture pairs of each of these possessions. The six items (Tshirt, glasses, hat, bag, mask and watch) were the same for the girl and boy, except that they differed in design to be identifiable as belonging to either the girl or the boy. Of the 6 items, 3 have feminine grammatical gender and 3 have masculine grammatical gender. This part of the task was used for Hindi in its original form and no adaptations were required. The fact that the possessive marking *–kaa* postposition agrees in gender and number with the possessed noun provided an additional layer of insight into the developing grammar of the participants, as will be seen in chapter …

Figure 3. Picture1 for possessives part of the Case Task

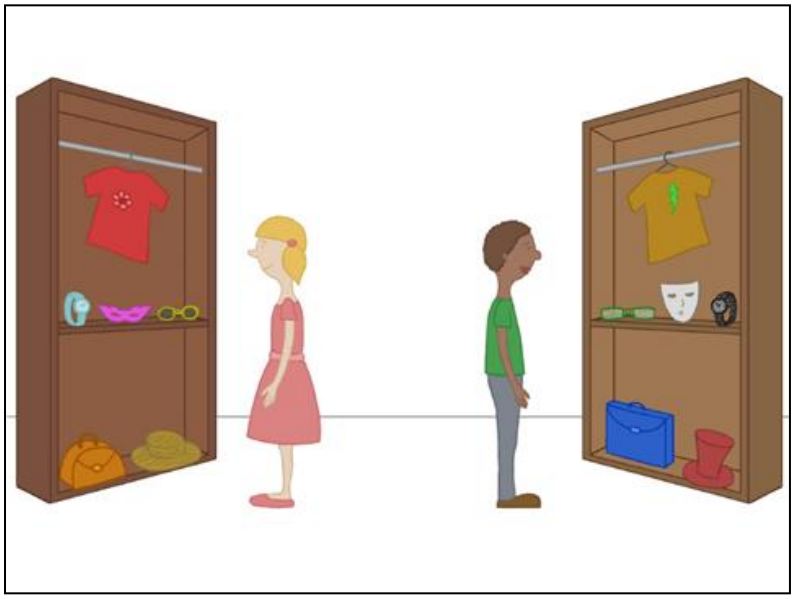
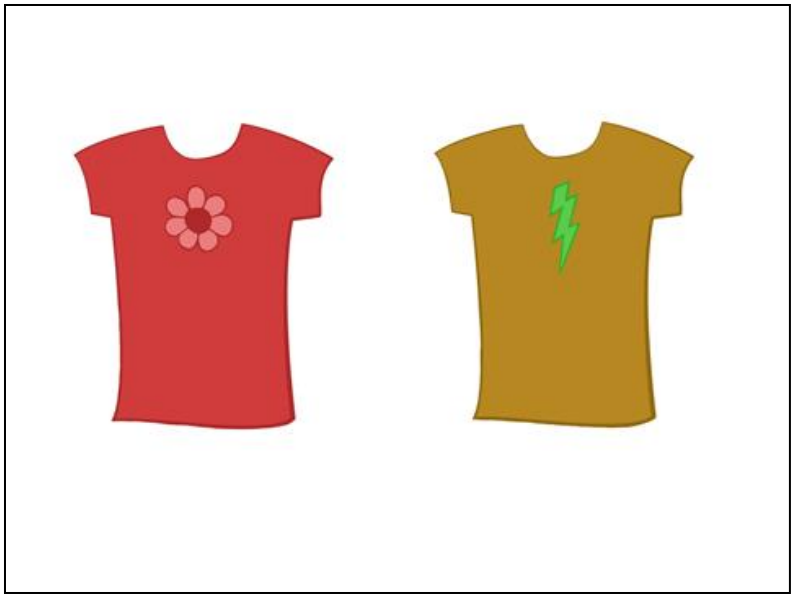


Figure 4. Sample picture for possessives part of the Case Task



4.3.3 Procedure

The pictures of each verb pair were put in a random order before commencing the experiment. This random order remained constant for each participant. The two practice verbs[6] were used as introduction to the task and to ensure the use of the target structure, the verb was cued in its infinitival form without any overt arguments: *ye tasviir to nehlaane ke baare me hE*, 'this picture is about bathing/washing'. The practice of cuing the verbs was kept constant throughout the task to also introduce the participant to an unfamiliar predicate that s/he may be using for the first time. Without priming the case or agreement morphology, this provided a hint to the participant for the target structure that s/he was required to produce.

As can be seen in the example pictures shown in Figure 1, all the images are of an ongoing event, which prompted a natural tendency to describe the picture using the progressive aspect. The Hindi aspectual split triggers the appearance of the ergative case marking on the subject of a transitive and ditransitive clause in the context of the perfective aspect. In order to prompt the participants to use the ergative marker, it was

[6] Even though the 2 practice items were intended to establish the procedure of the task as demonstration, while conducting the experiment in Hindi, they were not treated any differently than the test items. Therefore, these items have been included while doing the statistical analysis.

therefore necessary for them to produce the sentences in the perfective aspect. To this end, the task was conducted in two rounds: in one round the participant described the event in the picture in the progressive aspect, using the null nominative on the subject, and in the second round the participant was asked to use the perfective aspect. A hand puppet was introduced to the conversation for this purpose, and the participant was asked to tell the puppet about the events in the pictures as they have already occurred. Instead of asking the question *kyaa ho rahaa hE* 'what is happening here?', the participant was prompted to answer to *kyaa hua thaa* 'What had happened here earlier?'. Sometimes the participant was unable to make the switch of the narrative from progressive to the perfective aspect. Then the verb in its perfective form was provided as a cue, avoiding the use of the sentential arguments as they would be used in the target sentence with the relevant case morphology. For example, for the verb 'give' the perfective form *dhakkaa diyaa* 'gave a push' was provided as fragmented utterance by the researcher, which provided a cue to make the aspectual switch without using any of the nominal arguments of the target utterance. The perfective form of the verb as a cue was seen to effectively enable the participant to switch the narrative from progressive to the perfective aspect.

For the possessives part of the task, while looking at the first picture the participant was asked to identify the objects in the girl's cupboard and the boy's cupboard respectively, so as to establish the possession relation of the possessors with each of the items. In case a participant was unable to identify any object, the object name was provided, without using the target structure encoding the possessive relation. Next, picture pairs of each item were shown in a random order (which was constant for each participant) with the intention of eliciting a response with a pointing gesture in the form of *ye laRke kii Tshirt hE aur ye laRkii kii Tshirt hE* 'This is the boy's T-shirt and this is the girl's T-shirt'.[7]

Laminated prints of the pictures were used for the experiment and each session was video recorded using a video recorder fixed on a tripod. The experiment was conducted with each participant in a one-to-one setting in a quiet room where chances of distraction were minimal. If parents/guardians/teachers were present in the same room, they were requested not to prompt or distract the participant in any manner. Both sub-parts of the

[7] See Appendix 5 for a complete list of target utterances for this part of the task.

task were conducted on the same day with each participant. If required, a break was taken if the session lasted longer than the participant's level of interest and attention span.

For each participant, consent to be a part of the study was taken from the parents/guardian. Where the task was conducted in a school, permission was first taken from the school authority to conduct the study in their premises. Each parent was asked to fill a Participant Profile sheet, which provided details of the participant's age and linguistic background. Each participant was assigned an alphabetic code (with an optional numeral) for reference, so as to maintain anonymity.

4.3.4 Data Transcription and Analysis

The video recordings of 21 participants were transcribed using ELAN, which is an open source tool for creating annotations on audio or video resources created at the Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands (Wittenburg et al. 2006, http://tla.mpi.nl/tools/tla-tools/elan/). Amongst its many advantages, this tool allows multiple tiers of annotations to be time aligned with the video recording for easy and swift reference.

The corpus of children's utterances in the first and the second part of the task consisted of over 8000 utterances. However, for analysis of the data, a scoring sheet was used in MS Excel format, which required entering the response utterances of each child against each of the target sentences in the task. If there was more than one response utterance for a target sentence, the one closest in resemblance to the target structure was counted as the relevant response. If due to any reason, a child failed to respond with the target predicate structure, or the same was prompted by the researcher conducting the task, the entry was left blank as a 'no response'. Two separate score sheets were created for the verbs and possessive constructions and the relevant responses were copied into these.

Table 3: Summary of data collected in Case Task

S.no.	Initials	Age	No. of irrelevant/no response/prompted utterances		No. of Fragment utterances		No. of Analysable utterances with overt clause structure		Total no. of utterances
			Number	%	Number	%	Number	%	
1.	CP	3;5	11	16.18	1	1.47	56	82.35	68
2.	ST2	3;7	9	13.24	0	0	59	86.76	68
3.	RG1	3;7	18	26.47	1	1.47	49	72.06	68
4.	AG1	3;7	14	20.59	1	1.47	53	77.94	68
5.	SS1	3;9	5	7.35	0	0	63	92.65	68
6.	RG2	4;3	15	22.06	0	0	53	77.94	68
7.	SR	4;4	9	13.24	0	0	59	86.76	68
8.	TA	4;7	8	11.76	0	0	60	88.24	68
9.	HA	4;7	9	13.24	0	0	59	86.76	68
10.	RM	4;7	7	10.29	0	0	61	89.71	68
11.	AS	4;7	3	4.41	0	0	65	95.59	68
12.	TB	4;9	4	5.88	0	0	64	94.12	68
13.	KR	5;0	11	16.18	0	0	57	83.82	68
14.	NK	5;1	7	10.29	0	0	61	89.71	68
15.	HSS	5;3	4	5.88	0	0	64	94.12	68
16.	HP	5;5	4	5.88	0	0	64	94.12	68
17.	SS3	5;6	9	13.24	0	0	59	86.76	68
18.	IS	5;6	19	27.94	0	0	49	72.06	68
19.	AG2	5;8	14	20.59	0	0	54	79.41	68
20.	SM	5;9	3	4.41	0	0	65	95.59	68

21.	AKS	5;11	4	5.88	0	0	64	94.12	68
Total			187	13.10	3	0.21	1238	86.69	1428

Table 4: Summary of analysed data in first part of the Case Task

	Progressive	Perfective	Total
Target sentences	714	714	1428
No response	69 (=9.66%)	118 (=16.52%)	187 (=13.09%)
Fragment with no verb	2 (=0.28%)	1 (0.14%)	3 (0.42%)
Analysable responses	643 (=90.05%)	595 (=83.33%)	1238 (=86.69%)

For the Case Task, the 17 pairs of pictures elicited twice (in the progressive and the perfective aspect) for each of the 21 children, gave a target number of 1428 responses. Eliminating the null responses and unanalysable fragmented responses (with omitted verb structure) left a total of 1238 (86.69%) response utterances for the purpose of statistical analysis. As can be seen in Table 4, of these analysable responses, 643 were in the progressive aspect, and 595 were in the perfective aspect. The relatively higher number of 'no responses' in the perfective aspect can be attributed to the difficulty some children had in switching the narrative in the picture description from the progressive to the perfective aspect.

Table 5: Summary of analysed data for possessives part of the Case Task

Target structures	126
No response	3 (=2.38%)
Use of non-target structure in response	1 (=0.79%)
Analysable responses	122 (=96.82%)

For the possessives part of the task, 6 items for 21 children compute to 126 target structures. As can be seen in Table 5, eliminating 3 instances of 'no response' and 1 instance where the target possessive structure is not used, left a total of 122 analysable

utterances. A higher rate of analysable utterances in the possessives part of the task than in the verb part of the task can be attributed to the simplicity of the task compared to the first part, where the level of difficulty was relatively higher due to the presence of unfamiliar complex predicates. However, with 86.69% of analysable utterances, the first part of the task also yielded a good amount of data representing the use of overt case morphology as well as verb agreement in the children's developing grammar.

4.4 Bag Task

The Bag Task encourages the use of nominal modifiers of different kinds, locative expressions and possessive constructions including kinship relations, part-whole relations and ownership relations in an interactive set-up. This task involves the use of toy animals, a large bag and pockets corresponding to each block in a manner that can be played like a game between the researcher and the participant.

4.4.1 Participants

The Bag Task was conducted parallel to the Case Task with 12 Hindi speaking participants in 4 locations in Delhi, which comprised of 3 schools (2 pre-primary schools and 1 elementary school) and 1 residential locality. Each session with the participants was video recorded and all 12 recordings were included as part of the study.

Of the 12 participants, 8 participants were the same from the Case Task and there were 4 additional participants[8]. In order to maintain anonymity an alphabetic code (with an optional numeral) was assigned to each participant[9]. As can be seen in the table below,

[8] Since not all participants of the Case Task participated in the Bag Task, for the purpose of analysis, participants of the two tasks were treated as different from each other, unless otherwise stated.

[9] There are some instances of overlap in the alphabetic/alpha-numeric codes assigned to children in the two phases of field work. (Phase 1 = Case Task + Bag task, Phase 2 = Agreement Task) To avoid ambiguity in the analysis, any reference to a participant will be made along with the task name and age in Y;MM format. The task names for reference to participants have also been abbreviated to CT (Case Task), BT (Bag Task) and AT (Agreement Task).

parents of 5 of the participants claimed their child to be a monolingual Hindi speaker, even though each of the parents were at least bilingual in Hindi and English. The youngest participant was of age 2;10 and the oldest was of age 5;11.

Table 6: Summary of Participants in Bag Task

S. no.	Initials	Gender	Age	Child Lgs	Mother MT	Mother Other lgs	Father MT	Father Other lgs	Home Other lgs
1.	AA	M	2;10	Hindi English French	Creole (Mauritian)	French Eng hindi	hindi	Eng French	-
2.	AM	M	2;10	Hindi eng	hindi	eng	punjabi	Hindi eng	Bangla
3	ST1	M	2;11	Hindi	Hindi	eng	hindi	eng	-
4	RG1	F	3;7	Hindi Punjabi	Punjabi	Hindi English	Hindi	English	-
5	AG1	M	3;7	Hindi Punjabi	Punjabi	Hindi English	Hindi	English	-
6	SS2	M	3;11	Hindi	Hindi	eng	hindi	eng	-
7	RM	F	4;7	Hindi	Hindi English	Sanskrit	Hindi English	-	-
8	AS	F	4;7	Hindi English	Hindi	English	Hindi	English	-
9	TB	M	4;9	Hindi	Hindi	English	Hindi	English	-
10	NK	M	5;1	Hindi English	Hindi	Punjabi English	Hindi	Punjabi English	-
11	HSS	M	5;3	Hindi Oriya	Oriya	Hindi English	Oriya	Hindi English Telugu Bangla	-
12	AKS	M	5;11	Hindi	Hindi Bhojpuri Maithili	English Sanskrit	Hindi Bhojpuri	English Sanskrit	-

4.4.2 Material

The Bag Task (Eisenbeiss 2009, 2010) comprises of a set of LEGO toys of animal shapes, pockets for individual toy animals and a large duffel bag to keep all the toy animals and pockets in (https://languagegamesforall.wordpress.com/examples-of-

games/bag-game/). The toy animals were used in pairs, one big and one small, so that there is a contrasting property between them for the participants to refer to and describe. For each of these toy animal there was a pocket made of cloth with texture, colour and pattern similar to that of the animal. Also, each pocket had different closure types of different colours, such as zips, buttons or drawstrings as seen in Figure 5 and Figure 6 below. (https://languagegamesforall.wordpress.com/examples-of-games/bag-game/ and https://languagegamesforall.files.wordpress.com/2013/09/more-pictures-for-the-bag-task.pdf)

Figure 5. The large duffel bag with pockets in the Bag Task

Figure 6. Sample picture-1 for toy animals and their pockets in Bag Task

Figure 7. Sample picture-2 for toy animals and their pockets in Bag Task

The contrasts in the sizes of toy animals, the sizes, textures, colour patterns of the pockets and the types and colours of the closures on the pockets required the participant to mention these properties in modifier constructions. The kinds of nominal modifiers captured in this task ranged from demonstrative pronouns, *-vaalaa* structures, adjectives, locative expressions and personal pronouns. The use of *–kaa* postposition expressing possessive relations, part-whole relations and kinship relations was also seen extensively. The interactive game format of the task makes it an easy and enjoyable exercise for the participants so that even the younger of them are able participate. To keep the task simple, at a time only 6-7 pairs of animals and their corresponding pockets were used.

Specifically those animals and their pockets were used that would be easily identifiable by the participants, such as tiger, zebra, elephant, giraffe, bear, crocodile and penguin.

4.4.3 Procedure

The task involved the participants unpacking the bag by taking out one animal at a time. The pockets were to be laid out before the task began by the researcher, so as to arouse the curiosity of the participant. As the participant took out each animal from the duffel bag, s/he was encouraged to talk about its colour and description and try to match it with its pocket. Bringing out the second animal contrasting in size from the first one encouraged the participant to not only talk about the contrasting property but also create an imaginative narrative around the animals. The animals were then placed inside their corresponding pocket and the pocket closed. This exercise also involved the participant making requests, in situations where s/he is unable to place the animal in the pocket or unable to close the pocket. Once closed, each pocket was attached to the velcro strips on the outside of the duffel bag. This entire process was to be carried out for each of the animal pairs till all the pockets were attached to the outside surface of the duffel bag. The task then proceeds in reverse, unpacking all the pockets one by one and placing the animals back inside the duffel bag.

As was done in the Case Task, prior written consent was taken from the parents/guardian for each participant to be part of the study. Each session was video recorded and the participants assigned an alphabetic code (with an optional numeral) for reference to maintain anonymity.

4.4.4 Data Transcription and Analysis

Each video recording was transcribed using the software ELAN. All the utterances of the participants were included for analysis, unlike the Case Task, where one response per stimuli was selected and included in the analysis.

Table 7: Summary of data collected in Bag Task

S. no.	Initials	Age	No. of unclear/ incomprehensible utterances		No. of Fragment utterances		No. of Analysable utterances with overt clause structure		Total no. of utterances
			Number	%	Number	%	Number	%	
1	AM	2;10	16	5.03	131	41.19	171	53.77	318
2	AA	2;10	2	1.75	57	50.00	55	48.25	114
3	ST1	2;11	2	0.85	96	41.03	136	58.12	234
4	AG1	3;7	4	0.91	155	35.39	279	63.70	438
5	RG1	3;7	12	3.58	122	36.42	201	60.00	335
6	SS2	3;11	11	3.12	144	40.79	198	56.09	353
7	RM	4;7	2	1.01	91	45.73	106	53.27	199
8	AS	4;7	2	1.02	90	45.69	105	53.30	197
9	TB	4;9	4	0.85	250	53.42	214	45.73	468
10	NK	5;1	3	1.18	114	44.71	138	54.12	255
11	HSS	5;3	4	3.28	32	26.23	86	70.49	122
12	AKS	5;11	3	4.00	44	58.67	28	37.33	75
Total			65	2.09	1326	42.66	1717	55.24	3108

As can be seen in the table above, the total number of utterances in the data collected for the Bag Task was 3108. Approximately 2 % of the utterances were incomprehensible or unclear and were thus left out of the analysis. About 42% of these utterances were fragments without an overt predicate structure. These fragment utterances were not analysed for clause structure, but were included for analysis of complex noun phrases and

Layer I morphology. Such a high number of fragment utterances in the participants' speech can only be attributed to the nature of the method employed in the task and the naturalistic set up in which conversation was encouraged to take place in the task.

4.5 Agreement Task

This phase of field work looked at the use of case and agreement morphology in Hindi speaking children's developing grammar. To this end, semi-structured picture description tasks were created to capture the use of verbal agreement in different types of clause structures as well as internal feature agreement in a complex noun phrase (CNP), more commonly known as concord. Due to a dearth of prior research in the area of acquisition of feature agreement in Hindi, it was essential to try and capture different kinds of structures in the children's grammar. To be able to draw any generalizations in the developing grammar this task required the production of rich data in terms of a variety of morpho-syntactic and semantic structures.

4.5.1 Participants

This phase of field work was conducted with 31 participants in 6 locations in Delhi, which comprised of 1 residential university campus and 5 residential localities. Of the 31 participants, the tasks could not be completed for 10 for miscellaneous reasons[10] ranging from inability to complete tasks due to unavailability of participant for additional time, lack of interest by the participant, or shy/uncommunicative participant. Data recorded from 21 participants was therefore included in the study. For 2 participants, the task was conducted in a nursery school premises, and for all other participants, the task was conducted in the participants' homes.

[10] Reasons ranged from inability to complete tasks, unavailability of participant for additional time, lack of interest in the participant, or shy/uncommunicative participant.

Similar to previous two tasks, all participants were those growing up in Delhi, belonging to educated Hindi speaking households, with a fair amount of exposure the English language as well. As a result the use of English vocabulary in the children's grammar was observed to be not negligible. As can be seen in the table below, parents of 13 participants claimed their child to be a mono-lingual Hindi speaker, 7 claimed their child to be bilingual in Hindi and English, and 1 claimed their child to be trilingual in Hindi, Tamil and English. Of the 43 parents, the mother tongue of 37 parents was claimed to be Hindi, for 2 it was Marathi, for 1 Tamil and for 1 Bhojpuri. Among the other languages spoken by the parents and in the household were Gujarati, Maithili, Himachali, Punjabi and Telugu. Each parent was at least bilingual in Hindi and English

The youngest participant in this study was of age 1;11 and the oldest was of age 5;6, 13 of them girls and 8 boys.

Table 8: Summary of Participants in Agreement Task

s.no.	Initials	Gender	Age	Child Lgs	Mother MT	Mother Other lgs	Father MT	Father Other lgs	Home Other lgs
1	PA	F	1;11	Hindi English	Hindi	english	hindi	English	-
2	VC3	F	2;1	hindi	marathi	Hindi English	hindi	Gujarati English	-
3	VG	F	2;3	hindi	hindi	english	hindi	eng	-
	DM	F	2;6	Hindi English	Hindi	Eng	Hindi	eng	-
	NN	F	2;10	Hindi	Hindi	Eng	hindi	Eng	-
	AS1	F	2;11	Hindi Eng;ish	Hindi	English Maithili	hindi	Eng Maithili	-
	AS2	M	2;11	hindi	hindi	english	hindi	eng	-
	NS	F	3;3	hindi	Marathi	Hindi english	hindi	eng	-
	AS4	M	3;7	Hindi English	hindi	HImachali Eng	hindi	Punjabi HImachali Eng	-

	AK4	F	3;8	Hindi English	hindi	Punjabi eng	hindi	Punjabi eng	-
	VC1	M	4;2	Hindi	Hindi	Eng	hindi	Eng	-
	VC2	F	4;2	Hindi	Hindi	Eng	hindi	Eng	-
	LV	F	4;4	Hindi Tamil Eng	Tamil	Hindi Eng Telugu	Bhojpuri	Hindi eng	-
	AG1	M	4;5	Hindi	Hindi	Eng	-	-	-
	AK1	M	4;5	Hindi English	Hindi	Eng	Hindi	eng	-
	AK2	F	4;5	Hindi English	Hindi	Eng	Hindi	eng	-
	SS2	M	5;1	Hindi	Hindi	Eng	hindi	Eng	-
	RS	M	5;2	Hindi	Hindi	Eng	hindi	Eng	-
	AS3	F	5;2	Hindi	Hindi	Eng	hindi	Eng	-
	SS1	F	5;6	Hindi	Hindi	Eng	hindi	Eng	Punjabi
	AK3	M	5;6	Hindi	Hindi	Eng	hindi	Eng	-

4.5.2 Material

This semi- structured elicitation task employed a combination of story-telling and picture description methods for 10 sets of pictures, each of which represented an activity/event or a chain of activities/events. The primary aim was to elicit a narrative with complete sentences that would allow the use of case morphology and feature agreement patterns in the verbal structures used by the children as well as concord in complex nominal phrases with different kinds of modifying structures.

The pictorial stimuli for this task were created in the form of images using freely available royalty-free clip art sourced from the internet and offline sources (For example: http://search.coolclips.com/). A large number of clipart images were sourced from the Art Explosion set of CDs created by Nova Development (http://www.novadevelopment.com/software/). In some instances, images were drawn by hand, scanned and coloured using Microsoft Paint application to be used digitally. The

picture sets thus created were imported in Explain Everything[11], an interactive whiteboard application for use in an iPad. For the purpose of this study, one of the many advantages of this tool was the ability to record the audio conversation along with the interactive screen view on which the referred to part of the image can be pointed at with a visible pointer. Along with this advantage of being able to track what the child is pointing at during the elicitation tasks, running the application on the iPad added to the level of curiosity and excitement of the children to be a part of the study. Further, the drawing tool in this application helped engage the children, especially the younger ones, who were initially shy or reluctant to interact with the researcher.

This task was divided into two sub-parts, the first of which consisted of 36 slides and the second consisted of 14 slides. The first part was a collection of 10 sets of stories/events for description by the participants, and the second part consisted of contrasting pairs of objects to be described using CNP structures.

Table 9: Summary of sets of pictures for first part of Agreement Task

S.no.	Set of slides	No. of Slides
1.	The Balloon Seller	6
2.	Two houses	9
3.	Winter season	4
4.	Summer season	3
5.	The Apple Tree	3
6.	The Mouse	3
7.	The Light Switch	3
8.	The Woodcutter	1
9.	The Carpenter	1
10.	Rain	3

As can be seen in the table above, there is an inconsistency in the number of slides per set, each of which is unrelated to the other. This is because unlike a production

[11] https://explaineverything.com/

experiment like Case Task where the stimuli targeted a specific set of responses, the pictures in this task functioned as stimuli to get the participants to engage in a descriptive conversation not restricted by a targeted set of responses. Control over the elicited production was to a large extent limited in this task to the pictorial stimuli provided to the children. Since the grammar requires that a verbal structure in Hindi mandatorily carry agreement morphology, the use of specific predicates or argument structures was not crucial to the design of the tasks.

Figure 8. Sample picture 1 from the 'Winter Season' set of slides

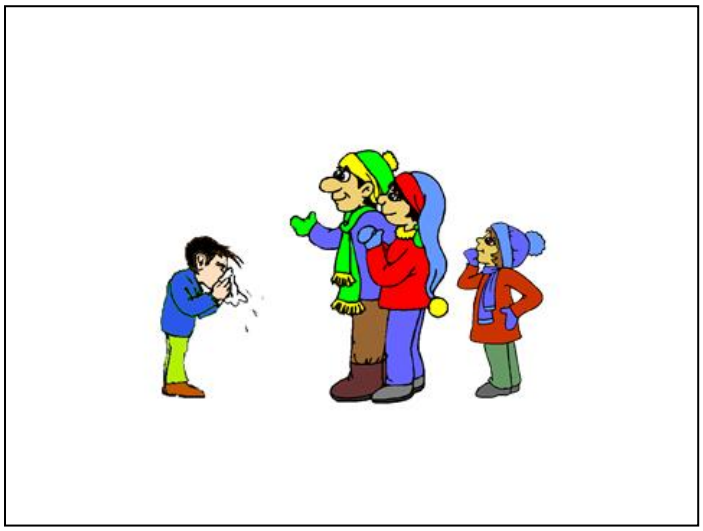
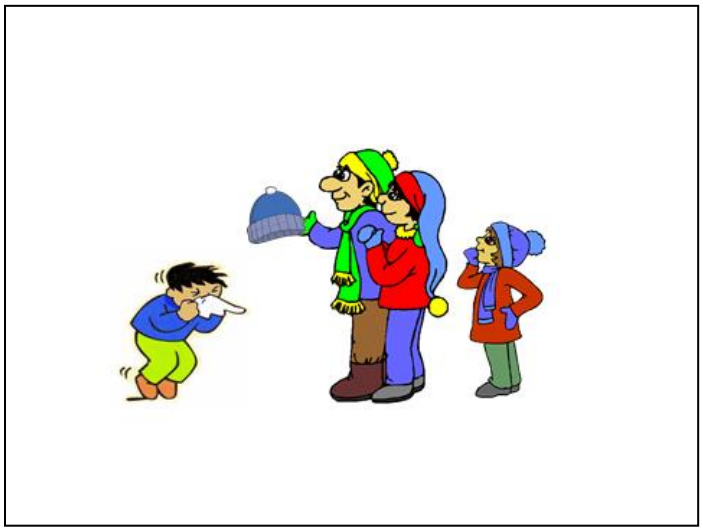


Figure 9. Sample picture 2 from the 'Winter Season' set of slides



Even though a tentative list of types of verbs and argument structures was kept in mind while putting together the picture stories for this task, an exhaustive list of target verbs and clause structures was not prepared. Such a move would have worked towards restricting the children's productive use of grammar in the provided semantic contexts. Instead the children were not discouraged to deviate from the pictures to a narrative of their imagination so as to elicit a semantically and grammatically rich corpus of data from them. A tentative list of the possible verbs likely to be elicited in the provided semantic contexts is given in Appendix 6.

The stories for the tasks were chosen to encourage the use of intransitive, transitive and ditransitive structures in progressive, perfective and imperfective aspects, locative expressions, complex predicates of N+V and V+V structures and dative experiencer subject constructions. The purpose of elicitation of these structures was to capture the appearance of feature agreement in gender (masculine vs. feminine) and number (singular vs. plural). Even though contrasts in person features were not included while designing the task, it was assumed that the use of person agreement would emerge in the children's language in the interactive session that this task was. In addition this task was designed to capture the use of morphological case marking in the form of Layer I, Layer II and Layer III postpositions in the children's developing grammar.

Besides the use of agreement in verbal structures and case morphology, this set of story-telling tasks was also intended to encourage the children to use complex nominal phrases of various kinds. To this end, a number of contrasting objects were included, an example of which can be seen in Figure 10, where the girl's balloon is with a star and the boy's balloon is without one, which would require the child to use a nominal modifier.

Figure 10. Sample picture from the 'The Balloon Seller' set of slides

The various types of structures for nominal modification that were kept in mind while designing the story telling tasks included adjectival modification, quantifiers, modification by a *–kaa* structure, modification by a *vaalaa* structure and modification by a participle structure. A tentative list of complex nominal phrases that are likely to be used in the picture descriptions/stories is given in Table 10.

Table 10: Indicative list of target CNPs for first part of agreement tasks

CNP in Hindi	CNP in English	Type of modification	Story name
gubbaare vaalaa	The balloon seller	*vaalaa*	The Balloon Seller
star vaalaa gubbaaraa	The balloon with a star	*vaalaa*	The Balloon Seller
bahaut saare gubbaare	Lots of balloons	Quantifier	The Balloon Seller
buuRhaa aadmii	Old man	Adjective	Two houses

buuRhii aurat	Old woman	Adjective	Two houses
laRke/laRkii ke mummy/papa/daadaa/daadii	Boy/girl's mother/father/grandfather/grandmother	*-kaa*	Two houses
uupar/niice vaalii khiRkii	The window upstairs/downstairs	*vaalaa*	Two houses
baRii/choTii khiRkii	Big/small window	Adjective	Two houses
TuuTii huii khiRkii	The broken window	Participle	Two houses
ThanDaa paanii	Cold water	Adjective	Summer season
caae kaa cup	Tea cup	*-kaa*	The Mouse
laRkii ke kapRe	The girl's clothes	*-kaa*	Rain

The second part of the Agreement Task was specifically designed to target the use of nominal modification in CNPs. Inspired by the possessives part of the Case Task, this set of pictures used images of two children with possessions that were minimally contrastive in terms of a descriptive property. While the target was the use of *–kaa* postposition structures expressing a possessive relation in the Case Task, this task targeted the use of feature agreement on the modifying structures expressing a minimally contrastive property of the possessed item. For example, the possessed items in Figure 6 are toy trains, except that one is small and the other is long, in possession of the boy and the girl respectively. The target CNPs here are *choTii train* 'small train' and *lambii train* 'long train', where gender agreement morphology appears on the attributive modifiers. Similarly, the target CNPs in Figure 11 are *phaTaa huaa bag/puraanaa bag* and *nayaa bag*.

Figure 11. Sample picture 1 from second part of Agreement task

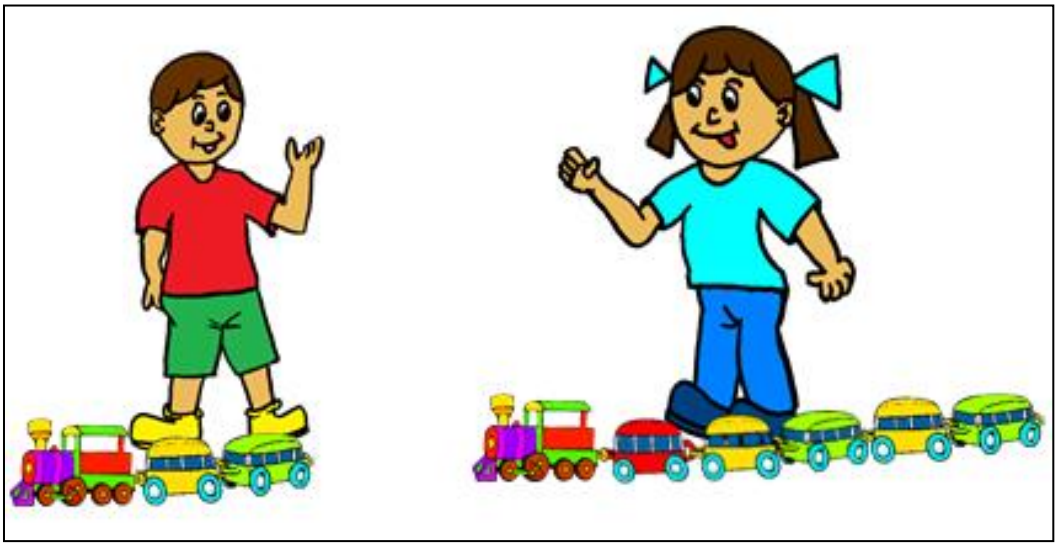
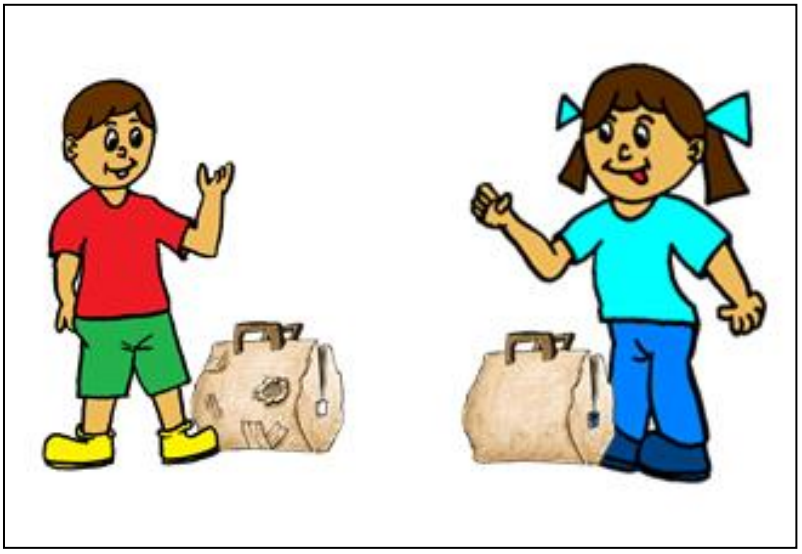


Figure 12. Sample picture 2 from second part of Agreement task



This part of the task consisted of 14 images, one introductory image and 13 images with minimally contrasting possessed objects (see Appendix 7 for a list of target CNPs). Of the 13 objects, there were 7 belonging to the class of feminine grammatical gender and 6 belonging to the masculine grammatical class of nouns. The modifiers included minimally contrastive properties that could be expressed using adjectives, participial modifiers, or nominal modifiers using a *vaalaa* structure. In the case of adjectival

modification, an effort was made to choose adjectives that inflect for feature agreement, and in the case of nominal modifiers, an effort was made to have modifying nominals that have a minimally contrasting set of gender and number features, as can be seen in the target CNP no.5 for 'book' in the table in Apeendix 7.

4.5.3 Procedure

The first set of narrative tasks began by asking the child if s/he liked listening to stories, and that this was going to be one such session, with the difference that the child was going to narrate the story, instead of listening to one. Reluctance of hesitation on the part of the child was dealt with by providing some amount of input about the picture being shown, in the form of questions such as 'Who do you think this is?', What is this?', 'Why?', 'Then, what happened?'. If these questions did not provide clues to the child about how to continue, then some key words about the event/activity or character in the picture were provided. However, an attempt was made to provide both these forms of clues, questions and key words, in the form of fragmented structures, sometimes supplemented with gestures, so as to not prime any case or agreement morphology in the child's responses. For example, in the pictures for winter season, as shown in Figures 8 and 9, the dative experiencer subject construction was cued by the researcher by pretending to sneeze, or pretending to shiver due to cold, to help the child comprehend the image of the sneezing boy.

In the second part of the task, the introductory image was meant to introduce the task, a girl and a boy approaching a big box of toys/objects, which they will take out of the box one by one to play with. The participating child was required to then describe which toy/object the girl and the boy each got.

As was done in the Case Task and Bag Task, prior consent was taken from the parent/guardian and teachers (in the case of the nursery school) of each participant. Anonymity was maintained by assigning an alphabetic code (with an optional numeral) to

each participant for reference. Also, a participant profile sheet was filled by the parents with details of the child's age at the time of recording and linguistic background.

For 2 participants, the task was conducted in the nursery school premises, and for all other participants, the task was conducted in the participants' homes. In a one to one conversation with each child, the task was conducted in a quiet room where an effort was made to keep distraction to a minimum. However, the disadvantage of recording in a home setting was that it was not always possible to eliminate completely prompting interventions from family members. The Agreement Task were recorded with 15 participants on the same day, and for 6 participants the recordings were done on two different days, owing to time constraints or the high level of distraction of the participant.

4.5.4 Data Transcription and Analysis

The video recordings of the 21 participants in this study were transcribed using the transcription tool ELAN, as was done in the Case Task and Bag Task. For the purpose of analysis, all utterances of all the 21 participants were included, as was done in the Bag Task. Unlike the Case Task, which was a controlled experiment with one fixed target response per stimulus item, this semi-structured task did not involve a restriction on the number of responses per stimulus item. Therefore, all of the participants' utterances from both parts of the task were exported in an MS Excel sheet and were analysed together in one score sheet. Inaudible/unanalysable fragment responses were eliminated.

Table 11: Summary of data for Agreement Task

S no.	Initials	Age	No. of unclear/ incomprehensible utterances		No. of Fragment utterances		No. of Analysable utterances with overt clause structure		Total no. of utterances
			Number	%	Number	%	Number	%	
1.	PA	1;11	74	13.94	289	54.43	168	31.64	531
2.	VC3	2;1	21	4.13	297	58.35	191	37.52	509
3.	VG	2;3	30	3.61	354	42.65	446	53.73	830
4.	DM	2;6	15	2.59	356	61.38	209	36.03	580
5.	NN	2;10	5	1.81	174	62.82	98	35.38	277

6.	AS1	2;11	27	4.97	308	56.72	208	38.31	543
7.	AS2	2;11	43	6.89	372	59.62	209	33.49	624
8.	NS	3;3	7	1.74	242	60.20	153	38.06	402
9.	AS4	3;7	2	0.36	338	60.57	218	39.07	558
10.	AK4	3;8	4	1.05	197	51.71	180	47.24	381
11.	VC1	4;2	1	0.22	281	61.35	176	38.43	458
12.	VC2	4;2	1	0.22	230	50.77	222	49.01	453
13.	LV	4;4	2	0.45	186	42.18	253	57.37	441
14.	AG1	4;5	0	0.00	150	42.86	200	57.14	350
15.	AK1	4;5	10	3.47	152	52.78	126	43.75	288
16.	AK2	4;5	3	0.61	224	45.53	265	53.86	492
17.	SS2	5;1	2	0.56	159	44.29	198	55.15	359
18.	RS	5;2	3	0.66	254	55.46	201	43.89	458
19.	AS3	5;2	3	0.86	137	39.37	208	59.77	348
20.	SS1	5;6	12	3.49	148	43.02	184	53.49	344
21.	AK3	5;6	5	1.13	139	31.52	297	67.35	441
Total			270	2.79	4987	51.59	4410	45.62	9667

As can be seen in the table above, the number of utterances for the Agreement Task (including both sub-parts) totalled to 9667. Less than 3% of these were unclear or incomprehensible utterances, which could not be transcribed. A large number of these are concentrated in the 2 year old participants. Utterances without an overt predicate were coded as fragments and were not analysed for clause structure, even though analysed for the appearance of Layer I inflectional morphology and feature agreement in CNPs, if any. A higher number of fragmented utterances than those with overt clause structure can be attributed to the naturalistic conversation that was characteristic of the interaction between the researcher and the participant in the task.

4.6 Conclusion

This chapter concludes with the observation that a combination of methods was most appropriate for the collection of primary data for this study. While the two tasks employed in the first phase of data collection were adapted from prior cross-linguistic

studies, the Agreement Task in the second phase was newly developed keeping in mind the Indian socio-cultural context as well as grammatical intricacies of the language under study. As was seen in Tables 3, 4 and 5, the Case Task yielded the highest rate of 86.69% and 96.82% analysable utterances (calculated as against a fixed number of target responses) for verb structure and complex noun phrases, respectively. The Bag Task and the Agreement Task yielded a rate of 55.24% and 45.62% (calculated as against the total number of utterances) of analysable utterances with an overt clause structure, as seen in Tables 7 and 11. In addition to these, a comparable rate of 42.66% and 51.59% of fragment utterances in these two tasks respectively, were analysed for complex noun phrases and oblique morphology as well, even though they lacked an overt clause structure. As will be seen in the following chapter, these tasks put together produced a rich corpus of child language data which could be used productively to capture the use of linguistic structures under study in the children's developing grammar.

Chapter 5:

Results: The Acquisition of Case and Verb Agreement Morphology

5.1 Introduction

This chapter documents observations made in the study of a developing grammar with respect to the grammatical properties described in chapters 2 and 3. As the process of language acquisition proceeds towards adult grammar fluency, children acquiring the nuances of syntactic structures make errors and produce ungrammatical structures through omissions, over-generalizations and incorrect application of grammatical rules of a specific language. Though the language produced in this process may not allow a researcher to clearly define the linguistic capabilities of a child at any stage of development, it does provide clues to the acquisition process. As has been seen in earlier language acquisition studies (for instance in Pareek et al. 2016), even though the number of errors in particular syntactic structures made by very young language learners are very small, these few errors do provide an insight into the developing grammar. A researcher of language acquisition is then able to view these errors across learners as part of an acquisition path for the syntactic structures under study.

This chapter looks at grammatical and ungrammatical application of some of these syntactic rules in the data collected for the study and tries to look for patterns of errors across age groups of learners. The chapter begins with the appearance of Layer I oblique morphology in the children's grammar as found in the data collected. The grammatical instances of the rules governing this morphology in the three tasks are shown in different contexts different nominals and modifiers, before proceeding to ungrammatical instances. The errors in oblique morphology are shown through examples and are grouped in different types, in order to understand a progression in their acquisition. Next, Layer II postpositions as they appear in the three tasks are described, separately for the Case Task first, and then for the Bag Task and the Agreement Task. The appearance of Layer III

postpositions is also discussed briefly as they are seen to be used in the latter two tasks. Then the chapter moves to a discussion of verb agreement as seen in the chidlren's grammar. While the Case Task shows this phenomenon in a limited number of comparable contexts, the Bag Task and the Agreement Task yield a much varied corpus of predicate structures used. Accurate application of the verb agreement rules in the chidlren's grammar in these varied predicate and argument structures are shown, before moving to discuss erroneous instacnes and their probable causes in all three tasks.

5.2 The acquisition of Layer I case/oblique morphology

As was discussed in Section 2.2, oblique morphology appears obligatorily on an inflecting class of nouns and modifiers in the presence of overt K morphology. Across the three tasks, the data yielded a high rate of accurate grammatical application of the rules governing this morphological feature across age groups (see Tables 1, 2 and 3). The following examples from the participating children's language show the use of oblique case in the presence of an overt K[1].

(1) laRkii -ne **laRke** -ko khiiNcaa (CT-HA:4;7)[2]
girl -ERG boy.OBL.M.SG -ACC pull.PERF.M.SG
'the girl pulled the boy'

(2) aur phir **bacon** -ne (AT-AG1:4;5)
and then children.OBL.PL -ERG
bola sorry
say.PERF.M.SG sorry
'and then the children said sorry'

(3) vo to **phuuloN** -ko (AT-AS4:3;7)

[1] All grammatical oblique markings have been marked in **Bold** text and omissions have been underlined to distinguish the two.
[2] References to participants are made in the following format: (Task Name-Initials;Age).
The task names have been abbreviated to CT (Case Task), BT (Bag Task) and AT (Agreement Task).

s/he EMPH flowers.OBL.M.PL -DAT

paanii de rahe hE vo

water.M.SG give PROG.M.PL AUX.PRS.3P s/he

's/he is watering the plants' (Lit: 's/he is giving water to the plants')

(4) **inhone** **ThanDiyoN** -ke (AT-RS:5;2)

they.OBL.PL.ERG winters .OBL.F.PL - *kaa*.PL

kapRe pehne hE…

clothes.M.PL wear.PERF.M.PL AUX.PRS.3P

'they are wearing winter clothes'

(5) **is** -ne **is** -ko (CT-SR;4;4)

s/he.OBL.SG -ERG s/he.OBL.SG -DAT

cup dikhaayaa

cup.M.SG show.PERF.M.SG

'S/he showed him/her the cup'

(6) **mere** -ko ek hii naam pataa (AT-AK2:4;5)

I.OBL -DAT one EMPH name.M.SG know

hE **laRke** -kaa

AUX.PRS.3P boy.SG.OBL -*kaa*.M.SG

'I know only one name for boys'

(7) ye **kis** -me rakhuuN mE (AT-DM:2;6)

this.SG wh.OBL.SG -LOC keep.1P.SG I

'In which should I keep this?'

(8) **jis** -me pEse (BT-TB;4;9)

REL.OBL.SG -LOC money.M.PL

rakhte hE

keep.IMPERF.PL AUX.PRS.3P

'in which (we) keep money'

The utterances in (1) to (4) show an *–aa* ending masculine singular noun *laRkaa* 'boy', an *–aa* ending masculine plural noun *baccaa* 'child', a consonant ending masculine plural noun *phuul* 'flower', and a vowel ending feminine plural noun *ThanDii* 'winter' inflect for oblique case in the presence of an overt K marker. Grammatical application of the same is also seen on demonstrative and personal pronouns, relative pronouns and wh-words as seen in utterances (5) to (8).

Instances of a non-finite participle modifying a verbal structure taking oblique case marking was also seen in the data, as seen in (9).

(9) phuul **khaane** aayaa (AT-AS1:2;11)
flower.M eat.INFI.OBL come.PERF.M.SG
thaa vo
AUX.PST.M.SG he.SG
'he had come to eat flowers'

Oblique concord in modifying structures in complex nominal phrases appears as well in the participating children's language on demonstratives, adjectives, *-kaa* and *-vaalaa* postpositions and non-finite participles.

(10) **is** mammaa -ko **is** (BT-AG1:3;7)
this.OBL.SG mother -ACC this.OBL.SG
bag -me Daaloge
bag.M.SG -LOC put.FUT.2P.HON
'(you) will put this mother in this bag'

(11) aur **choTe** baby -ne (AT-AK4:3;8)
and small.OBL baby.M.SG -ERG
'and the small baby'

(12) **us** laRkii -ke ghar -pe (AT-RS: 5;2)
that.OBL.SG girl -*kaa*.OBL.M.SG house.M.SG -LOC
'in that girl's house'

(13) pehle **is** **-vaale** -ko **is** (BT-AS: 4;7)
first this.OBL.SG -*vaalaa*.OBL.M.SG -ACC this.OBL.SG
-me Daalnaa hE
-LOC put.INFI. AUX.PRS.3P
'first this one must be put in this one '

(14) paanii **bharne** -vaalaa (AT-AS1:2;11)
water.M fill.INFI.OBL -*vaalaa*.M.SG
'one who fills water'

In the occurrence of more than one layer of modification, oblique concord was seen on each inflecting constituent of the modifying structure, as seen in (13) and (14) above, and (15) below.

(15) **is** **choTe** baby -kaa (BT-AG1:3;7)
this.OBL.SG small.OBL. baby.M -*kaa*.M.SG
'this small baby's (something)'

The developing grammar appears to be sensitive to exceptions at an early age to the oblique case marking rules as can be seen in (16) and (17) below, where a kinship term and an –*aa* ending masculine singular noun do not inflect even in the presence of overt K morphology.

(16) aur mammaa -ne maaraa papa -ko (AT-VG:2;3)
and mother -ERG beat.PERF.M.SG father -ACC
'and mother hit father'

(17) raajaa -ko thank you bola princess -ne (CT-CP:3;5)
king -ACC thank you say.PERF.M.SG princess –ERG
'the princess said 'thank you' to the king'

Tables 1, 2and 3 below provide a summary of the three tasks with respect to oblique case morphology and concord with details of obligatory contexts for its application and errors

of omission and over-extension per participant. While in these tables oblique case morphology and oblique concord in the nominal domain have been clubbed together for computation of number of errors, but in the discussion that follows of the errors and types of errors, the two are treated as different, as will be seen in Tables 4 and 5.

Table 1: Summary of use of Oblique morphology in first part of the Case Task[3]

S no.	Initials	Age	No of obligatory contexts for OBl	No. of correct/grammatical use of obl		No. of obl omissions		Over-extension of Oblique in non-oblique context
			Total	Total	%	Total	%	0
1	CP	3;5	18	18	100	0	0	0
2	ST2	3;7	8	8	100	0	0	0
3	RG1	3;7	9	9	100	0	0	0
4	AG1	3;7	26	26	100	0	0	0
5	SS1	3;9	5	5	100	0	0	0
6	RG2	4;3	10	10	100	0	0	0
7	SR	4;4	29	29	100	0	0	0
8	TA	4;7	15	15	100	0	0	0
9	HA	4;7	26	25	96.15	1	3.85	0
10	RM	4;7	24	24	100	0	0	**1**
11	AS	4;7	25	25	100	0	0	0
12	TB	4;9	13	13	100	0	0	**3**
13	KR	5;0	18	18	100	0	0	0
14	NK	5;1	37	21	56.76	**16**	**43.24**	0
15	HSS	5;3	5	2	40	**3**	**60**	0
16	HP	5;5	11	10	90.91	1	9.09	0
17	SS3	5;6	13	13	100	0	0	0
18	IS	5;6	4	4	100	0	0	0
19	AG2	5;8	4	4	100	0	0	0
20	SM	5;9	5	5	100	0	0	0

[3] In the possessives part of the Case Task there were only 4 instances where oblique was obligatory and used correctly. All proper names used which do not take oblique marking

21	AKS	5;11	64	59	92.19	**5**	**7.81**	0
Total			369	343	92.95	26	7.05	4

Table 2: Summary of use of Oblique morphology in Bag Task

S no.	Initials	Age	No of obligatory contexts for OBl	No. of correct/grammatical use of obl		No. of obl omissions		Over-extension of Oblique in non-oblique context
			Total	total	%	Total	%	0
1	AM	2;10	48	47	97.92	1	2.08	0
2	AA	2;10	30	29	96.67	1	3.33	0
3	ST1	2;11	47	47	100	0	0	0
4	AG1	3;7	104	104	100	0	0	0
5	RG1	3;7	43	43	100	0	0	0
6	SS2	3;11	65	63	96.92	2	3.08	0
7	RM	4;7	44	44	100	0	0	0
8	AS	4;7	66	66	100	0	0	0
9	TB	4;9	112	112	100	0	0	0
10	NK	5;1	64	64	100	0	0	0
11	HSS	5;3	12	12	100	0	0	0
12	AKS	5;11	30	30	100	0	0	0
Total			665	661	99.40	4	0.60	0

Table 3: Summary of use of Oblique morphology in Agreement Task

S. no.	Initials	Age	No of obligatory contexts for OBl	No. of correct/grammatical use of obl		No. of obl omissions		Over-extension of Oblique in non-oblique context
			Total	total	%	total	%	0
1	PA	1;11	8	7	87.5	1	12.5	0
2	VC3	2;1	7	6	85.71	1	14.29	0
3	VG	2;3	141	140	99.29	1	0.71	0
4	DM	2;6	39	38	97.44	1	2.56	0
5	NN	2;10	22	21	95.45	1	4.55	0
6	AS1	2;11	56	53	94.64	**3**	**5.36**	0
7	AS2	2;11	13	13	100	0	0	0
8	NS	3;3	62	61	98.39	1	1.61	**1**
9	AS4	3;7	134	133	99.25	1	0.75	0
10	AK4	3;8	75	75	100	0	0	0
11	VC1	4;2	32	29	90.625	**3**	**9.38**	0
12	VC2	4;2	65	64	98.46	1	1.54	0
13	LV	4;4	88	64	72.73	**24**	**27.27**	0
14	AG1	4;5	110	110	100	0	0	0
15	AK1	4;5	55	54	98.18	1	1.82	0
16	AK2	4;5	84	84	100	0	0	0
17	SS2	5;1	76	74	97.37	2	2.63	0
18	RS	5;2	139	139	100	0	0	0
19	AS3	5;2	77	76	98.70	1	1.30	0
20	SS1	5;6	88	79	89.77	**9**	**10.23**	0
21	AK3	5;6	116	115	99.14	1	0.86	0
Total			1487	1435	96.50	52	3.50	1

As can be seen in Tables 1, 2 and 3, the number of oblique omissions in each task is very few, and concentrated in a few participants. The number of participants who made no omissions in their application of the rules governing oblique morphology was 16 out of 21 in the Case Task, 9 out of 12 in the Bag Task and 5 out of 21 in the Agreement Task. The number of participants who made two or less than two omissions in their application

of oblique morphology was 2 in the Case Task, 3 in the Bag Task and 12 in the Agreement Task. Participants with more than 2 errors were 3 in the Case Task, 0 in the Bag Task and 4 in the Agreement Task.

The tables below sum up and classify the errors with respect to oblique *case* morphology that appears on a noun in the presence of overt K morphology, and oblique *concord* that appears on the modifying constituents of a complex noun phrase.

Table 4: Summary of omissions in Oblique morphology in the three tasks

Error type	Description of error	Case Task	Bag Task	Agreement Task	Total
A	On Noun: Obl. obligatory on noun only and omitted	5/26 =19.23%	0/4 =0%	29/52 =55.77%	34/82 =41.47%
B	On Modifier: Obl. obligatory on the modifier only (with a non-inflecting head noun) and omitted	21/26 =80.77%	4/4 =100%	12/52 =23.08%	37/82 =45.12%
C	On Noun+Modifier: Obl. obligatory on the noun as well as modifier and omitted on both	0/26 =0%	0/4 =0%	7/52 =13.46%	7/82 =8.54%
D	Correct on Noun + incorrect on modifier: Obl. obligatory on both noun and modifier but omitted only on modifier	0/26 =0%	0/4 =0%	0/52 =0%	0/82 =0%
E	Incorrect on Noun + correct on modifier: Obl. obligatory on both noun and modifier but omitted only on noun	0/26 =0%	0/4 =0%	4/52 =7.70%	4/82 =4.88%
	Total omissions	26	4	52	82

Table 5: Summary of overextensions in Oblique morphology in the three tasks

Error type	Description of error	Case Task	Bag Task	Agreement Task	Total
F	Overextension: Use of Obl. on noun belonging to non-inflecting class of nouns	4	0	1	5

Utterances showing errors of each of these types are shown below in (18) to (21).

(18) ek laRkii -ne laRkaa -ko khiiNcaa (CT-HSS:5;3)
one girl -ERG boy -ACC pull.PERF.M.SG

'a girl pulled the boy'

(19) … vo laRkii -ne sorry bol diyaa (AT-LV: 4;4)
that.SG girl -ERG sorry.M say give.PERF.M.SG
'that girl said sorry'

(20) aur ye laRkaa -ne (AT-LV:4;4)
and this.SG boy -ERG
'and this boy'

(21) in bacce ko (AT-SS1:5;6)
these.OBL.PL children.OBL.SG -DAT
balloons cahiye
balloons M.SG want
'these children want balloons'

In (18), oblique case morphology is omitted on *laRkaa* 'boy' showing error type A; oblique concord has been omitted on the demonstrative in (19) showing error type B; in (20) both oblique case morphology and oblique concord have been omitted in the noun phrase showing error type C; and in (21) the oblique form of the demonstrative appears, but the oblique marking is omitted on the head noun showing error type E. The only other lexical item on which the last of these error types occurs is *maTkaa* 'water pot', which was observed to be not a familiar item in the vocabulary of most participating children in the study.

Other than omissions, there were 4 instances of overextension of oblique morphology to *–aa* ending nouns that do not take otherwise inflect for oblique case and 1 instance of an inflecting noun appearing in the oblique form without the presence of an overt K.

(22) ek parii -ne ek -pare -ko (CT-TB:4;9)
one fairy.F -ERG one -fairy.OBL.M. -ACC
kiss kiyaa
kiss do.PERF.M.SG

'a female fairy kissed a male fairy'

(23) cook raaje -ko cammac (CT-RM:4;7)
cook.M.SG king.OBL.SG -DAT spoon.M.SG
de rahaa hE
give PROG.M.SG AUX.PRS.3P
'the cook is giving the spoon to the king'

(24) laRke ro rahaa hE (AT-NS:3;3)
boys cry PROG.M.SG AUX.PRS.3P
'the boy is crying'

In (22), a feminine singular lexical item *parii* 'fairy' has been over-extended to refer to a masculine singular referent by changing the *–ii* ending to *–aa* ending[4], and thus accurately applying the oblique marking rule to a masculine singular noun. There are 2 more instances of the same in the participant's language. In (23), there is an over-extension of the oblique case marking to a non-inflecting noun. And in (24), without the presence of and overt K, the noun has been used in its oblique form.

Considering the fact that most errors are concentrated in the language production of a few participants, along with error types, it seems appropriate to also look at the errors in each of these particular children. As mentioned earlier (see Tables 1, 2 and 3) there were 3 participants in the Case Task with more than two errors and 4 in the Agreement Task[5]. Each of these 7 is discussed in some detail below.

[4] Though not without exceptions, the general rule in Hindi being that *–ii* ending nouns are of feminine gender and *–aa* ending nouns are of masculine gender.
[5] Two or less than two errors have been left out of this discussion, as they were considered insufficient evidence.

Table 6: Break up of Oblique omissions into error types for 7 participants

Task	Child	Age	Total omissions	Error type	No. of instances	%
CT	NK	5;1	16	A	0	0
				B	16	100
				C	0	0
				D	0	0
				E	0	0
CT	HSS	5;3	3	A	3	100
				B	0	0
				C	0	0
				D	0	0
				E	0	0
CT	AKS	5;11	5	A	0	0
				B	5	100
				C	0	0
				D	0	0
				E	0	0
AT	AS1	2;11	3	A	2	66.67
				B	1	33.33
				C	0	0
				D	0	0
				E	0	0
AT	VC1	4;2	3	A	2	66.67
				B	0	0
				C	0	0
				D	0	0
				E	1	33.33
AT	LV	4;4	24	A	12	50
				B	5	20.83
				C	5	20.83
				D	0	0
				E	2	8.33
AT	SS1	5;6	9	A	7	77.78
				B	0	0
				C	0	0
				D	0	0
				E	2	22.22

To be able to draw any generalisation in the acquisition of this grammatical feature, the errors of these 7 participants with most errors were looked at and juxtaposed with the his/her own grammatical application of oblique marking in the data.

- CT-NK:5;1
    - 15 omissions on demonstrative, such as in <u>*ye*</u> *joker ne*, only on *-ne*[6] marked nominals (Error type B). No other instances of *-ne* marked noun phrases obligatorily requiring oblique.
    - 1 omission on <u>*ye*</u> *boy kaa haath* (Error type B)
    - 21 grammatical instances include those on personal pronouns and demonstratives such as ***is/us*** *ko/ka* and, ***is*** *girl se* respectively

- CT-HSS:5;3
    - 3 omissions on *–aa* ending M.SG. noun <u>*laRkaa*</u> *ne/ko* (Error type A)
    - 2 grammatical instances such as ***us*** *raajaa ko*

- CT-AKS:5;11
    - 4 omissions on demonstrative of *–ne* marked nominal such as in <u>*ye*</u> *laRkii ne* (Error type B)
    - 1 omission on demonstrative of *–ko* marked nominal <u>*ye*</u> *fireman ko* (Error type B)
    - 59 grammatical instances include that on demonstratives of *–ne/ko/se/kaa* marked nominals, such as in ***is*** *laRkii ne* and ***is*** *raajaa se*

- AT-AS1:2;11
    - 2 omissions on *–aa* ending M.SG. nouns <u>*laRkaa*</u> *ko*, <u>*gamlaa*</u> *ke andar* (Error type A)
    - 1 omission on demonstrative of non-inflecting noun <u>*ye*</u> *machine me* (Error type B)
    - 53 grammatical instances are all those on personal pronouns and demonstrative pronouns such as ***is/us/un*** *ko/kaa* and ***is*** *table ko,* respectively

- AT-VC1:4;2

[6] *-ne/ko/se/me/par/kaa* are the overt K markers that trigger oblique morphology. Refer to section 2.4 and 3.7 for description

- 2 omissions is on the –*aa* ending M.SG. noun <u>*maTkaa*</u> *me* (Error type A)
- 1 omission on –aa ending M.SG. noun *maTkaa,* even when modifying structure has grammatical oblique marking – *boy* ***ke*** <u>*maTkaa*</u> *me* (Error type E)
- 29 grammatical instances include those on pronouns such as ***mere*** *ko*, ***un*** *ko,* and on wh-words such as ***kis*** *ne*

- AT-LV:4;4
  - 12 omissions on –*aa* ending M.SG. nouns such as <u>*laRkaa*</u> *ke*, <u>*maTkaa*</u> *me,* <u>*betaa*</u> *ko* (Error type A)
  - 5 omissions on demonstrative of non-inflecting noun such as <u>*ye*</u> *laRkii ke* (Error type B)
  - 5 omissions on both demonstrative and aa-ending noun such as <u>*ye*</u> *laRkaa ke* (Error type C)
  - 2 omissions on –aa ending M.SG. noun even when the modifying structure has oblique marked grammatically *-us* ***ke*** <u>*maTkaa*</u> *me* (Error type E)
  - 64 grammatical instances of oblique marking include pronouns such as ***is/us*** *ne/ko,* ***mujhe****,* wh-words such as ***kis*** *ne*, demonstrative such as ***is*** *ghar me.*

- AT-SS1:5;6
  - 7 omissions on –*aa* ending M.SG. noun *laRkaa* such as in <u>*laRkaa*</u> *ke paas* (Error type A)
  - 1 omission on –*aa* ending M.PL. noun even though the demonstrative has oblique form - ***in*** <u>*bacce*</u> *ko* (Error type E)
  - 1 omission on *-vaalaa* postposition modifying a non-inflecting noun (Error type E)
  - 79 grammatical instances of oblique marking include pronouns such as ***is/us/un/mujhe/unhone,*** on modifying structures such as *alag* ***vaale*** *house me,* ***apne vaale*** *balloon ke saath,* ***is vaale*** *balloon me*
  - Among the grammatical instances are 2 instances of –*aa* ending M.SG. noun ***laRke*** *ko* and ***laRke*** *ne*

Given the facts that emerge in the detailed discussion above, of the error types and then the omissions in the individual participants' language, the following possibilities emerge about the acquisition of this grammatical feature. One is that the rule governing oblique marking on functional categories is acquired much earlier than nouns without any exceptions. This is suggested by the grammatical use of oblique case morphology on personal pronouns, as well as oblique concord on constituents of modifying structures such as demonstrative pronouns, adjectives, inflecting postpositions (*-kaa* and *–vaalaa*), and wh-words. The rules governing oblique marking on inflecting nouns, on the other hand, are acquired through a process of internalising the generalisations about the phonological form of the individual nouns and the exceptions to this generalization. The under-extensions (error type A) and over-extensions (error type F) on *–aa* ending masculine singular nouns can be taken as evidence for this deduction.

Under these deductions, Error type B which requires oblique concord on a modifying constituent of a non-inflecting noun can be attributed to the partial adherence to the rules of oblique concord. Since the noun is non-inflecting in these instances where the oblique case morphology does not have a phonological form, concord with this noun does not take place on the modifying constituents. This is a partial adherence because each participant making these errors is also seen to use the grammatical counterpart of such a structure.

Error type C and E, of which there are very few instances, can be attributed to a combination of the above deductions. If the oblique marking generalisation of an inflecting noun is not accurately made in the developing grammar, concord on a modifying structure may or may not take place depending on the under-extension or over-extension of the oblique marking rule on the lexical item.

Another observation worth noting is that among all the postpositions triggering oblique morphology, 2 participants (CT-NK:5;1 and CT-AKS:5;11) in the study are seen to omit oblique morphology specifically in the context of the *-ne* postposition (an instance of Error type B). While CT-NK:5;1 omits oblique morphology in each of the 15 contexts where the phonological form of *–ne* marked noun phrase obligatorily requires it, CT-

AKS:5;11 only seems to violate this rule partially with 5 omissions. The limited amount of data available for this particular observation offers no substantial explanation at this point as to why in the grammar of these two children this postposition appears to behave differently than the others with respect to triggering oblique morphology. It does, however, open this question for further research.

5.3 The acquisition of Layer II and Layer III case morphology/postpositions

The acquisition of Layer II case morphology in the children's grammar was what the Case Task and the Bag Task initially set out to study. As described in detail in section 2.4, these phrasal postpositions define the grammatical relations of noun phrases in a clause structure. This section looks at the use of these postpositions in the participants' grammar across the three tasks and observes that very early in the developing grammar, children are sensitive to the grammatical relations of the nominal constituents in a clause structure. The high rate of accuracy and lack of any consistency in the very small number of errors/omissions/incorrect uses of these postpositions provide evidence for the same.

5.3.1 Case Task

Since the Case Task was specifically designed to capture the use of these postpositions, there is a clear number of target forms requiring each postposition[7]. Table7 below lists the use of these postpositions in this task, number of omissions and incorrect forms used for each of them. As can be seen in the table below, there is high number of omissions and incorrect forms. In the following paragraphs, each of these will be discussed individually.

[7] See Section 4.3 for description of the task and methodology used. Also refer to section 4.3.2 for a list of target verbs, and Appendix4 for a list of target responses for this task.

Table 7: Summary of Layer II postpositions in the first part[8] of Case Task

Nominal in the clause	Target form	Total instances of overt argument	Correct form used		Form omitted	Incorrect form used
			total	%		
Subject in Progressive aspect of V_t/V_{dt}	null	596	596	100%	0	0
Subject in Perfective aspect of V_t/V_{dt}	*-ne*	581	566	97.42%	15	0
Object of V_t	*-ko*	560	519	92.68%	4	37
Object of V_t	*-kaa*	144	120	83.33%	0	24
Object of V_t	*-se*	65	42	64.61%	2	21
Direct object of V_{dt}	null	413	408	98.79%	0	5
Indirect object of V_{dt}	*-ko*	404	379	93.81%	0	25

There are 15 instances of *–ne* omissions, which is otherwise obligatory in transitive and ditransitive utterances in the perfective aspect. It was observed that each of these omissions could be a result of the transition in narrative that the participants made in the picture description task from the progressive to the perfective aspect (see methodology in section 4.3.3 for details). Since the images used in the stimuli were of an ongoing event, it was natural and spontaneous for the participants to describe the same in the progressive aspect. Even though the original task was adapted to encourage the use of this ergative marker in the perfective aspect, some participants had more difficulty than others in making the switch to perfective aspect. Thus none of these omissions can clearly be viewed as a reflection of a deficit in the developing grammar with respect to the production of this postposition in the perfective aspect.

There are 4 instances of omission and 37 instances of incorrect form used in place of *–ko* on the object of a transitive clause. The 4 omissions are instances of a different predicate

[8] The findings of second part of the Case Task, which is the possessives part will be discussed in section 6.8

used, instead of the target predicate, which required a null form to be used on the object. An example of such an instance can be seen in (25), with the corresponding target response for the verb *khiiNcnaa* 'pull' in (26).

(25) raajaa girl -kaa haath (CT-NK:5;1)
king girl *-kaa*.M.SG hand.M.SG
khiiNc rahaa hE
pull PROG.M.SG AUX.PRS.3P
'the king is pulling the girl's hand'

(26) raajaa laRkii -ko (Target response)
king king -ACC
khiiNc rahaa hE
pull PROG AUX.PRS.3P
'the king is pulling the girl'

Similarly each of the 37 instances of incorrect form, were those of complex predicates where the participants have used a different argument structure for an unfamiliar or novel complex predicate structure (*gale lagaanaa* 'hug', *kiss karnaa* 'kiss' and *gudgudii karnaa* 'tickle). For example the Hindi complex predicate for 'hug' was found to be unfamiliar to a lot of the participants resulting in them using a *–se* marker on the objects of these predicates. The utterance in (27) shows this, with the corresponding target response in (28). The use of a different predicate altogether can be seen in (29), which requires the use of *–se* postposition instead of the *–ko* postposition required by the targeted response (30).

(27) jaadugar -ne parii -se (CT-SS1:3;9)
magician.M.SG -ERG fairy.F.SG -SOC
gale lagaayaa
neck.OBL put.PERF.M.SG
'the magician hugged the fairy'

(28) jaadugar -ne parii -ko (Target response)
magician.M.SG -ERG fairy.F.SG -ACC

gale lagaayaa

neck.OBL put.PERF.M.SG

'the magician hugged the fairy'

(29) cook princess -se dostii kar (CT-CP:3;5)

cook.M.SG princess SOC friendship do

rahaa hE

PROG.M.SG AUX.PRS.3P

'the cook is making friends with the princess'

(30) cook princess -ko kiss kar (Target response)

cook.M.SG princess -ACC kiss do

rahaa hE

PROG.M.SG AUX.PRS.3P

'the cook is kissing the princess'

For *–kaa* (*madad karnaa* 'help' and *piichaa karnaa* 'follow') and *–se* (*haath milaanaa* 'shake-hand') as well, each of the omissions and incorrect forms used can be attributed to a similar cause as that of errors for *–ko*. This can be seen in (31) and (33) below, with the corresponding target responses in (32) and (34) respectively.

(31) cook ballerina -ke piiche (CT-IS:5;6)

cook.M.SG ballerina -*kaa*.PL behind

jaa rahaa hE

go PROG.M.SG AUX.PRS.3P

'the cook is going behind the princess'

(32) cook dancer -kaa piichaa (Target Response)

cook.M.SG dancer.F.SG -*kaa*.M. SG behind.M.SG

kar rahaa hE

do PROG.M.SG AUX.PRS.3P

'the cook is following the dancer'

(33) laRkii -ne raajaa -kaa haath (CT-KR:5;0)

girl -ERG king -*kaa*.M.SG hand
milaayaa
meet.PERF.M.SG
'the girl shook hands with the king'

(34) laRkii -ne raajaa -se haath (Target response)
girl -ERG king -SOC hand
milaayaa
meet.PERF.M.SG
'the girl shook hands with the king'

In place of a null marking on the direct objects of ditransitive clauses, there are 5 instances where a *–ko* marking has been used. In these utterances, the participant has used Differential Object Marking on the definite noun phrase, as can be seen in (35) below with the corresponding target response in (36).

(35) referee football -ko (CT-HSS:5;3)
referee.M.SG football.F.SG -ACC
dikhaa rahaa hE
show PROG.M.SG AUX.PRS.3P
'referee is showing the football'

(36) referee khilaaRii -ko football (Target response)
referee.M.SG player.M.SG -DAT football.F.SG
dikhaa rahaa hE
show PROG.M.SG AUX.PRS.3P
'the referee is showing the football to the player'

On the indirect objects of ditransitive utterances, in place of *–ko* an incorrect form has been used in 25 instances. These incorrect forms are a result of a beneficiary theta-role assigned to the argument, as seen in (37), instead of a goal/destination role of the target utterance, as seen in (38). Layer III postpositions, mediated by a Layer II postposition are

seen to be grammatically used in these instances. This can be seen in the example from the data in (37), with the corresponding target response in (38).

(37) laRke -ne ek laRkii -ke -liye (CT-SM:5;9)
boy.OBL -ERG one girl -*kaa*.OBL -for
ciTThii likhii
letter.F.SG write.PERF.F.SG
'the boy wrote a letter for a girl'

(38) laRke -ne laRkii -ko ciTThii likhii
boy.OBL -ERG girl -DAT letter.F.SG write.PERF.F.SG
'the boy wrote a letter to the girl'

It may be noted form the discussion above that none of these instances of omissions and incorrect forms used can be attributed to the participants not knowing the form or the grammatical relations that these forms represent. Since the target predicate structures of these complex predicates were novel or unfamiliar to the participants, they were observed to produce alternate familiar predicate structures, or a different theta-role relation on the argument of these predicates.

5.3.2 Bag Task and Agreement Task

Since the Bag Task and Agreement Task were semi-structured tasks without a specific target list of responses, it was difficult to classify the utterances on the basis of aspect and argument structure to quantify a target number for the use of each form of postposition. Unlike the Case Task, there is wide variety of predicate structures used which have different argument structures and grammatical relations in these two tasks. Since classifying and quantifying them in any way is beyond the scope of this thesis, a different approach has been taken to quantify and analyse the use of these postpositions in these tasks. First, all instances of all forms of postpositions were quantified, whether grammatical or ungrammatical, on the different arguments of clause structure (see Table

8 below). Then of all the utterances marked as ungrammatical in the data, errors with respect to these postpositions were extracted and classified.

Table 8: Summary of Layer II and Layer III postpositions in the Bag Task (BT) and Agreement Task (AT)

Nominal in the clause	Task	Total overt noun phrases	Forms used							
			Null	*-ne*	*-ko*	*-se*	*-kaa*	*-me*	*-pe/par*	*-ke*-LOC
Subject of $V_i/V_t/V_{dt}$	BT	882	800	23	54	3	-	-	-	-
	AT	2945	2362	241	339	1	-	-	-	-
Object of V_t	BT	595	335	-	50	5	43	95	8	59
	AT	2095	1451	-	83	50	13	168	65	265
Direct object of V_{dt}	BT	153	57	-	96	-	-	-	-	-
	AT	350	322	-	27	1	-	-	-	-
Indirect Object of V_{dt}	BT	163	45	-	3	3	-	77	12	23
	AT	197	27	-	103	19	-	21	10	17

Table 9: Summary of errors in Layer II and Layer III postpositions in Bag Task (BT) and Agreement Task (AT)[9]

S no.	Task	Initials	Age	Omissions				Incorrect form used	Total errors
				-ne	-ko	-se	-me		

[9] Only participants with any errors have been listed.

1	BT	AG1	3;7	-	-	-	-	1	1
2	BT	RG1	3;7	-	-	-	-	1	1
3	BT	SS2	3;11	-	-	-	2	1	3
4	AT	PA	1;11	-	-	3	-	-	3
5	AT	VG	2;3	-	-	-	-	5	5
6	AT	AS1	2;11	3	-	-	-	-	3
7	AT	AS2	2;11	8	-	-	-	-	8
8	AT	AS4	3;7	-	-	-	-	1	1
9	AT	AK4	3;8	1	-	1	-	-	2
10	AT	LV	4;4	4	-	-	-	-	4
11	AT	AK2	4;5	-	1	-	-	-	1
12	AT	RS	5;2	2	-	1	-	2	5
13	AT	AS3	5;2	-	-	-	-	3	3
14	AT	SS1	5;6	1	-	-	-	1	2
15	AT	AK3	5;6	-	-	-	-	1	1
Total				19	1	5	2	16	43

As can be seen in Table 9 above, the maximum number of omissions in Layer II and Layer III postpositions is for the *–ne* ergative marker. These omissions can be attributed to an increasing influence of non-ergative marking varieties of Hindi that has been observed in the Delhi region in adult grammar as well. The omissions of other forms of Layer II postpositions and the use of incorrect forms can be attributed to the individual grammars of these participants that make use of idiosyncratic properties of argument structures functional in the grammar. Therefore, it would be incorrect to say that any of these errors point to a pattern suggesting a systemic deficiency in the acquisition of Layer II and Layer III postpositions. Rather this set of empirical evidence suggests that children acquire the rules governing the use of these postpositions with fair amount of accuracy well before they reach 2 years of age.

5.4 Acquisition of Verb Agreement[10]

In the data collected for this study, a number of observations were made in the children's application of the rules governing verb agreement in their language. As was seen in the categories of errors discussed in the previous sections, all of the error types with respect to verb agreement had very few instances in the data, but the systematic appearance of some of these across participants gives us a view to a grammar in transition from partial to complete adherence to the rules of adult grammar.

As was discussed in detail in Section 2.5, a number of factors work in coordination to determine the verb agreement phenomenon in Hindi. Agreement on the verbal constituents of a predicate structure depends on the composition of the predicate structure, the presence or absence of overt case morphology (CBAC)[11] on the nominals in the clause and the position of these nominals in the clause structure. Besides these factors, which features of the agreement controlling nominal appear on which verbal constituents are determined by the syntactic configuration of these constituents in the clause structure (SCOPA).

From the youngest participants, a high sensitivity to all of these factors was seen in the data collected. The fact that at a young age children's grammar is familiar with the rule that the highest nominal in the syntactic structure controls agreement on the verb in the absence of overt K can be seen in (39) to (41) below. In (40) and (41), agreement is controlled by the subject since it is the highest nominal not marked by an overt K, but in the complex predicate taking a dative marked subject, agreement is controlled by the nominal in the N+V predicate in (39).

(39)	mujhe	Dakaar	aa	gaii	Dakaar	(AT-VC3:2;1)
	I.DAT	burp.F.SG	come	go.PERF.F.SG	burp.F.SG	
	'I burped' (Lit: 'burp came to me')					

[10] Some of the results in this section for verb agreement in the Case Task were presented at Formal Approaches to South Asian Languages 5, Yale University, in 2015 and subsequently published in the conference proceedings in 2016, co-authored with Ayesha Kidwai and Sonja Eisenbeiss (https://ojs.ub.uni-konstanz.de/jsal/index.php/fasal/issue/view/14)

[11] Refer to Section 2.5 for a description of these factors.

(40) parii balloon le aaii (AT-PA:1;11)
fairy.F.SG balloon .M.SG take come.PERF.F.SG
'The fairy brought the balloon'

(41) naanii to un -ko ball (AT-AS4:3;7)
grandmother EMPH they.OBL.PL -DAT ball.F.SG
de rahii hE
give PROG AUX.PRS.3P
'grandmother is giving the ball to them'

Adherence to this rule of agreement with the highest nominal unmarked for overt K controlling agreement can also be seen in the following ungrammatical utterances where the ergative K morphology has been omitted in the perfective aspect. The absence of overt *–ne* on the subject, makes it available as a controller of agreement in the utterances in (42) to (44).

(42) ye bhii Topii pehne hE (AT-AS1:2;11)
this.SG EMPH topi.F.SG wear.PERF.PL AUX.PRS.3P
ye bhii Topii. pehne hE
this EMPH topi.F.SG wear.PERF.PL AUX.PRS.3P
's/he has also worn a cap and s/he has also worn a cap'

(43) vo juice piye (AT-AK4:3;8)
s/he.SG juice.M.SG drink.PERF.PL
's/he drank juice'

(44) ye bhaiyaa to shirt (AT-LV:4;4)
this older brother EMPH shirt.F.SG
pehnaa hE
wear.PERF.M.SG AUX.PRS.3P
'this older brother has worn a shirt'

The presence of CBAC sensitive to different forms of K can be seen in (45) to (49) below, in each of which the K marked nominal is not available and the next highest nominal is the controller for agreement.

(45) girl -ne bahaut saare balloon (AT-VC1:4;2)
girl -ERG lot many.OBL balloon.M.PL
le liye
take take.PERF.PL
'the girl took many balloons'

(46) is (zebra) -ko coT lagii hE (BT-AA:2;10)
this zebra.M.SG -DAT injury.F.SG feel.F.SG AUX.PRS.3P
'this zebra has been inured'

(47) behen ball -ko phekegii (AT-VC1:4;2)
sister ball.F.SG -DAT throw.FUT.F.SG
'sister will throw the ball'

(48) girl -ne policeman -ko khiiNcaa (CT-ST2:3;7)
girl -ERG policeman -ACC pull.PERF.M.SG
'the girl pulled the policeman'

(49) baahar -se aavaaz (AT-DM:2;6)
outside -ABL sound
aa rahii hE paanii -kii
come PROG.F.SG AUX.SG.3 water.M *-kaa.F.SG*
'the sound of water is coming from outside'

An ergative *–ne* marking and a dative *–ko* marking on the subjects prevents these nominals from controlling agreement in (45) and (46) respectively. Agreement then takes place with the object in (45) and with the nominal of the complex predicate in (46). When the object is DOM marked with a *–ko* marker and the subject is unmarked, the subject controls agreement, as in (47). Where both the subject and the object are marked by an

overt K, a default masculine singular agreement takes place, as seen in (48). Even in a scrambled structure such as that in (49), agreement is seen to take place with the correct nominal *aavaaz* 'sound', as the only other nominal in the utterance is in the modifying structure for *aavaaz*, thus unavailable to the verbal probes for agreement.

Pareek et al. (2016) in their findings for acquisition of verb agreement in the Case Task observe that there are no violations of SCOPA. Even though the stimuli in the task did not provide any context for 1P or 2P feature agreement to capture contrasts with 3P feature agreement, there were no instances of children showing person agreement on the progressive auxiliaries or the perfective form of the verb. Children showed complete adherence to the principle that person agreement takes place only in the vicinity of T in the structure. This adherence was also seen in the data for Bag Task and Agreement Task. Like the Case Task, these tasks also did not specifically target the use of 1P and 2P feature agreement, but the methodology of the tasks encouraged the participants to engage in a conversation with the researcher, which provided some data where the child talks about himself/herself. Besides, some situations in the stimuli provided contexts for reporting the speech of a character, which also used 1P agreement.

(50) baNd kar rahaa huuN (BT-AG1:3,7)
close do PROG.M.SG AUX.PRS.1P
'I am closing (it)'

(51) tab mE is -me bEThtaa huuN (AT-VG:2;3)
then I this -LOC sit.PERF AUX.PRS.1P
'then I am sitting in this'

(52) is -ne bola ki (AT-AS3:5;2)
s/he.OBL.SG -ERG said.M.SG COMP
mE bhii pii saktii huuN
I EMPH drink can.F.SG AUX.PRS.1P

Different aspectual and modal constructions in the utterances in (50) to (52), show agreement in gender and number features on the progressive auxiliary and the

imperfective form of the verb as in (50) and (51) respectively, and in the modal auxiliary in (52). Agreement in person feature, however, is only seen on the tense marking auxiliary. There were no instances of errors in this respect in the entire set of data collected for this research, which shows that sensitivity to person features in the children's grammar sets in with complete accuracy much before the age of 2.

It may be noted here that even though contrasts in person features were not provided in the stimuli, the conversational nature of the tasks encouraged some of the younger participants to produce utterances which show the use of person feature agreement in the children's grammar. Besides the 1P feature agreement seen in (50) and (51) above, this is further exemplified in the imperative mood utterances in the data, as seen in (53) to (55) below. There were 117 and 174 utterances in the imperative mood in the Bag Task and the Agreement Task respectively, in most of which the child addresses the researcher. The addressee in (53) and (54) is the researcher for whom the participant uses an honorific form of the imperative form of the verb, and in (55), the addressee is one of the child characters in the stimuli. These utterances show a sensitivity in the children's grammar to person feature contrasts through the verb forms directed towards the addressee.

(53) aap akele dekho (AT-VC3:2;1)
you.HON alone see.2P
'you see (it) alone'

(54) ab duusraa lagaao (AT-NS:3;3)
now second.M.SG put.2P
'now put the second (one)'

(55) ab tum aNdar mat aanaa (AT-SS1: 5;6)
now you inside NEG come.INFI
'now you don't come inside'

Tables 10, 11 and 12 below provide a task-wise summary of the accuracy in verb agreement per child. The utterances have been classed on the basis of grammatical aspect

as Perfective and Non-perfective, with the latter including progressive, imperfective/habitual, the 'about to' aspectual meaning expressed by the *vaalaa* particle[12] and infinitive forms of the verbs.

Table 10: Summary of errors in Verb Agreement in the Case Task

S no.	Initials	Age	No. of Analysable utterances with overt clause structure			Accuracy in Verb Agr %					
			Total	Non-Perf	Perf	Non-Perf			Perf		
						correct	Incorrect	Accuracy%	correct	Incorrect	Accuracy %
1	CP	3;5	56	29	27	25	4	86.21	26	1	96.30
2	ST2	3;7	59	30	29	29	1	96.67	22	7	75.86
3	RG1	3;7	49	26	23	21	5	80.77	23	0	100.00
4	AG1	3;7	53	26	27	23	3	88.46	27	0	100.00
5	SS1	3;9	63	32	31	32	0	100.00	27	4	87.10
6	RG2	4;3	53	23	30	20	3	86.96	25	5	83.33
7	SR	4;4	59	30	29	24	6	80.00	22	7	75.86
8	TA	4;7	60	33	27	33	0	100.00	27	0	100.00
9	HA	4;7	59	31	28	31	0	100.00	26	2	92.86
10	RM	4;7	61	32	29	31	1	96.88	24	5	82.76
11	AS	4;7	65	33	32	33	0	100.00	30	2	93.75
12	TB	4;9	64	31	33	31	0	100.00	32	1	96.97
13	KR	5;0	57	28	29	28	0	100.00	28	1	96.55
14	NK	5;1	61	31	30	31	0	100.00	29	1	96.67

[12] Different from the *vaalaa* postposition described in Section <…> that is used for nominal modification, this *vaalaa* particle expresses an 'about to' meaning for the event denoted by the non-finite verb in its complement.

i. Sana roTii khaane vaalii hE
Sanaa bread eat.INFI.OBL *vaalaa*-F. AUX.PRS
'Sana is about to eat the bread'

15	HSS	5;3	64	32	32	29	3	90.63	28	4	87.50
16	HP	5;5	64	33	31	32	1	96.97	28	3	90.32
17	SS3	5;6	59	33	26	33	0	100.00	25	1	96.15
18	IS	5;6	49	33	16	25	8	75.76	10	6	62.50
19	AG2	5;8	54	31	23	30	1	96.77	23	0	100.00
20	SM	5;9	65	33	32	33	0	100.00	32	0	100.00
21	AKS	5;11	64	33	31	32	1	96.97	25	6	80.65
TOTAL			1238	643	595	606	37	94.25	539	56	90.59

Table 11: Summary of errors in Verb Agreement in the Bag Task

S no.	Initials	Age	No. of Analysable utterances with overt clause structure			Accuracy in Verb Agr %					
			Total	Non-Perf	Perf	Non-Perf			Perf		
						correct	Incorrect	Accuracy%	correct	Incorrect	Accuracy %
1	AM	2;10	171	149	22	148	1	99.33	22	0	100.00
2	AA	2;10	55	45	10	45	0	100.00	10	0	100.00
3	ST1	2;11	136	101	35	100	1	99.01	35	0	100.00
4	AG1	3;7	279	212	67	212	0	100.00	67	0	100.00
5	RG1	3;7	201	170	31	168	2	98.82	30	1	96.77
6	SS2	3;11	198	160	38	160	0	100.00	37	1	97.37
7	RM	4;7	106	63	43	60	3	95.24	43	0	100.00
8	AS	4;7	105	82	23	82	0	100.00	23	0	100.00
9	TB	4;9	214	190	24	190	0	100.00	24	0	100.00
10	NK	5;1	138	129	9	129	0	100.00	9	0	100.00
11	HSS	5;3	86	80	6	80	0	100.00	6	0	100.00
12	AKS	5;1	28	25	3	25	0	100.00	3	0	100.00

		1									
Total			1717	1406	311	1399	7	99.50	309	2	99.36

Table 12: Summary of errors in Verb Agreement in the Agreement Task

S no.	Initials	Age	No. of Analysable utterances with overt clause structure			Accuracy in Verb Agr %					
						Non-Perf			Perf		
			Total	Non-Perf	Perf	correct	Incorrect	Accuracy%	correct	Incorrect	Accuracy %
1	PA	1;11	168	96	72	96	0	100.00	56	16	77.78
2	VC3	2;1	191	156	35	150	6	96.15	30	5	85.71
3	VG	2;3	446	259	187	221	38	85.33	143	44	76.47
4	DM	2;6	209	120	89	116	4	96.67	75	14	84.27
5	NN	2;10	98	73	25	63	10	86.30	16	9	64.00
6	AS1	2;11	208	143	65	135	8	94.41	45	20	69.23
7	AS2	2;11	209	91	118	91	0	100.00	72	46	61.02
8	NS	3;3	153	100	53	99	1	99.00	46	7	86.79
9	AS4	3;7	218	106	112	104	2	98.11	107	5	95.54
10	AK4	3;8	180	109	71	109	0	100.00	67	4	94.37
11	VC1	4;2	176	110	66	106	4	96.36	52	14	78.79
12	VC2	4;2	222	160	62	157	3	98.13	59	3	95.16
13	LV	4;4	253	187	66	180	7	96.26	44	22	66.67
14	AG1	4;5	200	130	70	127	3	97.69	67	3	95.71
15	AK1	4;5	126	73	53	68	5	93.15	41	12	77.36
16	AK2	4;5	265	163	102	161	2	98.77	97	5	95.10
17	SS2	5;1	198	107	91	106	1	99.07	85	6	93.41
18	RS	5;2	201	96	105	93	3	96.88	84	21	80.00
19	AS3	5;2	208	145	63	144	1	99.31	63	0	100.00
20	SS1	5;6	184	125	59	121	4	96.80	50	9	84.75
21	AK3	5;6	297	209	88	206	3	98.56	87	1	98.86
Total			4410	2758	1652	2653	105	96.19	1386	266	83.90

As also described in Pareek et al. (2016), the Case Task yielded an approximately 94% accuracy in verb agreement in the non-perfective aspect, and an approximately 90% accuracy in the perfective aspect (refer to Table 10). In the perfective aspect, they attribute a majority of these errors to a system of overgeneralisation of a default

masculine agreement, irrespective of the gender value of the agreement controlling nominal. This can be seen in the ditransitive utterance in (56) and in the complex predicate structure in (57), where instead of the nominal part of the complex predicate controlling agreement, there is a default masculine agreement on the verb.

(56) uncle -ne aunty -ko ciTThii bhejaa (CT-ST2:3;7)
uncle -ERG aunty -DAT letter.M.SG send.PERF.M.SG
'uncle sent aunty a letter'

(57) yahaaN -pe laRkii -ne laRke -ko gudgudii kiyaa (CT-RM:4;7)
here -LOC girl -ERG boy -DAT tickle do.PERF.SG.M
'the girl tickled the boy here'

Besides these instances of application of a default system, the errors in verb agreement in the perfective aspect were ambiguous between an incorrect gender assignment to the agreement controlling nominal, and a masculine gender assignment to a borrowed English noun instead of transferring the gender value from the Hindi counterpart.

In the progressive aspect, on the other hand, even though the number of errors is smaller than in the perfective aspect (refer to Table 10), they observe a recurrence of gender agreement with an overtly *-ko* marked object, as can be seen in (58) to (60) below.

(58) laRkii laRke -ko uThaa rahaa hE (CT-AG1:3;7)
girl boy.OBL -DAT lift PROG.M.SG AUX.PRS.3P
'the girl is lifting the boy'

(59) raajaa is laRkii -ko khiiNc rahii hE (CT-SR:4;4)
king this girl -ACC pull PROG.F.SG AUX.PRS.3P
'the king is pulling this girl'

(60) queen cook -ko tickly (CT-IS:5;6)
queen cook.M.SG -DAT tickly
kar rahaa hE

do PROG.M.SG AUX.PRS.3P

'the queen is tickling the cook' (Lit. 'the queen is doing 'tickly' to the cook')

These errors were seen as a systematic pattern of CBAC violations on the object in the children's grammar, thereby allowing a K marked object to control agreement in these utterances. A fact they emphasise in their findings is that there is no evidence of such a violation on the subject, that is there was no instance of a *–ne* marked subject controlling agreement, unlike the *–ko* marked object.

Looking at the verb agreement errors in the Bag Task and the Agreement Task, an attempt was made to sort for errors with similar patterns of CBAC violations as found in the Case Task. These tasks provided a wider scope for CBAC applications, besides the context of *–ne* marked subjects and objects with DOM *–ko* marking, since they produced a large number of utterances with other K postpositions as well on both subjects and objects (refer to Tables 11 and 12). It was observed that there were no instances of verb agreement errors where the agreement controlling nominal was a *–ne*, *-ko*, *-se* marked subject. However, there were three instances of errors in verb agreement with a *–ko* marked indirect object. These instances are shown in (61) to (63) below.

(61) vo (mother) phuuloN -ko paanii (AT-AS4:3;7)
she flowers.OBL -DAT water.M
de rahe hE vo
give PROG.PL AUX.3P she
'she is watering the flowers' (Lit. 'she is giving water to the flowers')

(62) (mother) un(flowers) -ko paanii (AT-AS4:3;7)
(mother) those.OBL -DAT water.M.SG
de rahe hE
give PROG.PL AUX.PRS.3P
'(mother) is watering them' (Lit. '(mother) is giving water to them')

(63) (mother) flower -ko paanii (AT-AK1:4;5)
(mother) flower-DAT water.M

de rahaa hE

give PROG.M.SG AUX.PRS.3P

'mother is watering the flowers' (Lit. '(mother) is giving water to the flowers')

In (61) and (62), the same child allows the verb to agree in gender and number with the –ko marked nominal, as is also the case in (63). That these are not instances of incorrect gender assignment to the null K marked subject 'mother' is observed by the use of correct agreement with these nouns in other intransitive utterances.

These errors of verb agreement with a K marked nominal in an indirect object position suggests an addition to the results of Pareek et al. (2016), that CBAC in the developing grammar of children is not firmly in place for arguments other than those in subject positions.

5.5 Conclusion

To conclude this chapter, the findings of the study with respect to Layer I oblique concord, Layer II and Layer III postpositions and Verb agreement are summarized as follows: Oblique morphology is acquired on functional categories much earlier than individual lexical items, as was seen by its accurate applications on personal pronouns and all functional categories of nominal modifying structures. What appears to take longer for the children to acquire is the oblique marking rule for individual lexical items in the inflecting nominal class.

With respect to Layer II postpositions, a very high rate of accuracy is seen across all age groups. The omissions and erroneous uses of some of these postpositions are attributed to unfamiliar/novel predicates, or idiosyncratic argument structures in the child's grammar which assignes a different semantic role to an argument in the predicate structure.

While a larger number of errors are seen in verb agreement in the perfective aspect than in the progressive aspect, most of the former can be attributed to no systemic deficiencies in the developing grammar. They appear to be caused by a system of no agreement with

the appearance of a default feature set on the verb structure, or incorrect values assigned to the feature set of individual nouns. In the progressive aspect, on the other hand, even though the number of errors is very small, there appears to be a rare appearance of systemic pattern of agreement with an overtly case marked object.

Chapter 6:

Results: Acquisition of Agreement in the Nominal domain

6.1 Introduction

As was discussed in Chapter 3 in detail, partial feature agreement takes place on constituents of modifying structures with the modified head noun. These constituents comprise of grammatical categories including demonstratives, wh-words, quantifiers, adjectives, participial verbs and *-vaalaa* and *–kaa* postpositions. The data collected for this research consists of complex nominal phrases with instances of each of these modifying structures, even though their use is not evenly distributed across these categories. For instance there are very few instances of demonstratives, wh-words and participial verbs across the participants' language production, compared to a high number of quantifiers, adjectives and *–kaa* and *vaalaa* postpositions. This uneven distribution is owing to the fact that the tasks were designed to capture more of the latter than the former categories[1]. The following sections discuss the use of these categories in the children's language production in the research with respect grammatical and ungrammatical applications of feature agreement in the nominal domain.

Tables 1, 2 and 3 give a brief summary of the number of CNPs appearing in the data in the three tasks distributed across each participant, with a break-up of the number of CNPs requiring feature agreement, CNPs for which the referent of the head nominal is omitted and not known from the context to determine grammatical/ungrammatical agreement, and CNPs not requiring feature agreement due to the declension class of the modifying constituent/s.

[1] Refer to section 4.5 for details.

Table 1: Summary of CNPs in Possessives part of the Case Task (C=Correct)

S.no.	Initials	Age	CNPs requiring agr	*-kaa/-kaa+vaalaa*		Non_agreeing_mod	Don't know referent	Total CNPs
				C	%			
1	CP	3;5	10	9	90.00	0	0	10
2	ST2	3;7	11	9	81.82	0	0	11
3	RG1	3;7	12	9	75.00	0	0	12
4	AG1	3;7	12	9	75.00	0	0	12
5	SS1	3;9	7	4	57.14	0	0	7
6	RG2	4;3	12	10	83.33	0	0	12
7	SR	4;4	12	6	50.00	0	0	12
8	TA	4;7	12	12	100.00	0	0	12
9	HA	4;7	11	11	100.00	0	0	11
10	RM	4;7	12	11	91.67	0	0	12
11	AS	4;7	11	11	100.00	0	0	11
12	TB	4;9	11	11	100.00	0	0	11
13	KR	5;0	11	11	100.00	0	0	11
14	NK	5;1	11	11	100.00	0	0	11
15	HSS	5;3	11	6	54.55	0	0	11
16	HP	5;5	11	11	100.00	0	0	11
17	SS3	5;6	11	9	81.82	0	0	11
18	IS	5;6	11	7	63.64	0	0	11
19	AG2	5;8	10	10	100.00	0	0	10
20	SM	5;9	12	11	91.67	0	0	12
21	AKS	5;11	11	8	72.73	0	0	11
Total			232	196	84.48	0	0	232

Table 2: Summary of CNPs in Bag Task (C=Correct, T=Total, %=Accuracy %)

S no.	INITIALS	AGE	Requiring agr	C	%	Non_agreeing_mod	Don't know referent	Total CNPs
1	AM	2;10	27	24	88.89	5	4	36
2	AA	2;10	8	8	100.00	15	0	23
3	ST1	2;11	31	26	83.87	14	0	45
4	AG1	3;7	47	46	97.87	18	1	66
5	RG1	3;7	30	30	100.00	14	1	45
6	SS2	3;11	54	52	96.30	18	0	72
7	RM	4;7	32	32	100.00	6	0	38
8	AS	4;7	58	58	100.00	6	0	64
9	TB	4;9	79	79	100.00	15	0	94
10	NK	5;1	37	34	91.89	3	0	40
11	HSS	5;3	32	32	100.00	5	2	39
12	AKS	5;11	10	8	80.00	2	0	12
Total			445	429	96.40	121	8	574

Table 3: Summary of CNPs in Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no	INITIALS	AGE	Requiring agr	C	%	Non agreeing modifier	Don't know referent	Total CNPs
1	PA	1;11	11	10	90.91	1	0	12
2	VC3	2;1	52	46	88.46	0	0	52
3	VG	2;3	91	69	75.82	0	15	106
4	DM	2;6	46	43	93.48	0	7	53
5	NN	2;10	17	11	64.71	0	0	17
6	AS1	2;11	67	48	71.64	0	0	67
7	AS2	2;11	49	41	83.67	4	4	57
8	NS	3;3	39	35	89.74	7	0	46
9	AS4	3;7	99	95	95.96	6	0	105
10	AK4	3;8	63	59	93.65	17	0	80

11	VC1	4;2	51	35	68.63	8	0	59
12	VC2	4;2	49	42	85.71	11	0	60
13	LV	4;4	64	41	64.06	32	0	96
14	AG1	4;5	93	88	94.62	46	0	139
15	AK1	4;5	50	16	32.00	16	0	66
16	AK2	4;5	146	140	95.89	11	0	157
17	SS2	5;1	61	60	98.36	22	0	83
18	RS	5;2	133	99	74.44	19	0	152
19	AS3	5;2	82	79	96.34	12	0	94
20	SS1	5;6	64	58	90.63	18	0	82
21	AK3	5;6	54	54	100.00	25	0	79
Total			1381	1169	84.65	255	26	1662

In the experimental method of the Case Task, the possessives part of this research produced no instances where the referent of the head noun in the CNP was not known which is because the referent was present in the pictorial stimuli for each response. Also, the targeted set of responses that were elicited contained only CNPs with the *–kaa* postposition, hence no non-agreeing modifiers (See Table 1). On the other hand, in the Bag Task and the Agreement Task there were 8 and 26 CNPs for which the referent of the omitted head noun cannot be deduced from the context of the conversation (see Tables 2 and 3). It is the CNPs requiring NP internal agreement in which the referent of the head nominal along with its gender and number features are known, that are of interest to this study.

As can be seen in Tables 1, 2 and 3, the rate of accuracy in feature agreement per participant in each task is insufficient to analyse the nature of these errors and draw any conclusions about their cause. To be able to do so, these CNPs are classified into the different categories of modifiers and discussed in detail in the sections that follow. The categories of modifiers have been classified as listed below along with the section in which the use of each in the child language data has been discussed in detail:

a) Demonstrative & demonstrative+*vaalaa* (Section 3.2)

b) wh-word & wh-word+*vaalaa* (Section 3.3)
c) Quantifier & Quantifier+*vaalaa* (Section 3.4)
d) Adjective & Adjective+*vaalaa* (Section 3.5)
e) Participial verb (Section 3.6)
f) Infinitive+*vaalaa* (Section 3.8)
g) *–kaa* postposition & *–kaa+vaalaa* (Section 3.7)
h) Noun+*vaalaa* (Section 3.8)

Tables 4 and 5 below show a break-up of these categories as produced per participant in the Bag Task and Agreement Task, respectively. Since the *–vaalaa* postposition as a category of modifier is not used in isolation, takes as its complement any of the other modifying categories[2]. Owing to its versatility in terms of the complement it can take, each of its instances in the data has been clubbed with the category of modifier in its complement for the purpose of analysis.

Since the Possessives part of the Case Task only produced instances of CNPs with the *–kaa* postposition, it will be included in Section 6.8, and discussion for all other categories consist of data from the Bag Task and Agreement Task.

In the following sections, each of these modifier types as they appear in the chidlren's language production are discussed separately, to see if a consistant pattern of error types emerges across categories, or if any category/categories differ form the others with respect to error patterns and types.

[2] Refer to Section 3.8 for a detailed description of this postposition and its structure.

Table 4: Summary of different categories of agreeing modifiers used in CNPs in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S. no.	INITIALS	AGE	Demonstrative/ Demonstrative +*vaalaa*		Wh-word/ wh-word+*vaalaa*		Quantifier/ Quantifier+*vaalaa*		Adjective/Adjective +*vaalaa*		Participial Verb		*-kaa* postpositions/ *-kaa+vaalaa*		Infinitive Verb+*vaalaa*		Noun+*vaalaa*		combi_2modifiers		Total		
			C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	%
1	AM	2;10	8	8	0	0	2	2	6	6	0	0	8	11	0	0	0	0	0	0	24	27	88.89
2	AA	2;10	0	0	1	1	0	0	2	2	0	0	5	5	0	0	0	0	0	0	8	8	100.00
3	ST1	2;11	0	0	0	0	0	0	10	10	0	0	15	20	0	0	0	0	1	1	26	31	83.87
4	AG1	3;7	9	9	1	1	6	7	4	4	0	0	22	22	0	0	0	0	4	4	46	47	97.87
5	RG1	3;7	0	0	0	0	3	3	9	9	0	0	15	15	3	3	0	0	0	0	30	30	100.00
6	SS2	3;11	1	1	0	0	7	8	23	23	0	0	19	20	0	0	0	0	2	2	52	54	96.30
7	RM	4;7	5	5	0	0	5	5	16	16	0	0	5	5	0	0	1	1	0	0	32	32	100.00
8	AS	4;7	8	8	1	1	6	6	16	16	0	0	27	27	0	0	0	0	0	0	58	58	100.00
9	TB	4;9	15	15	8	8	1	1	41	41	0	0	12	12	0	0	2	2	0	0	79	79	100.00
10	NK	5;1	4	4	0	0	1	1	1	1	0	0	22	25	2	2	3	3	1	1	34	37	91.89
11	HSS	5;3	10	10	0	0	0	0	14	14	0	0	8	8	0	0	0	0	0	0	32	32	100.00

12	AKS	5;11	0	0	0	0	2	2	6	6	0	0	0	2	0	0	0	0	0	0	8	10	80.00
Total			60	60	11	11	33	35	148	148	0	0	158	172	5	5	6	6	8	8	429	445	96.40

Table 5: Summary of different categories of agreeing modifiers used in CNPs in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	Demonstrative/ Demonstrative +*vaalaa*		Wh-word/ wh-word+*vaalaa*		Quantifier/ Quantifier+*vaalaa*		Adjective/ Adjective+*vaalaa*		Participial Verb		*-kaa* postpositions/ *-kaa+vaalaa*		Infinitive Verb+*vaalaa*		Noun+*vaalaa*		combi_2modifiers		Total		
			C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	%
1	PA	1;11	0	0	0	0	6	7	1	1	0	0	3	3	0	0	0	0	0	0	10	11	90.91
2	VC3	2;1	0	0	0	0	8	8	7	9	0	0	30	34	0	0	1	1	0	0	46	52	88.46
3	VG	2;3	0	0	0	0	18	23	13	16	0	0	31	41	0	0	7	11	0	0	69	91	75.82
4	DM	2;6	0	0	0	0	7	7	11	11	0	0	10	11	0	0	15	17	0	0	43	46	93.48
5	NN	2;10	0	0	0	0	0	1	1	3	0	0	9	12	0	0	1	1	0	0	11	17	64.71
6	AS1	2;11	0	0	0	0	9	11	6	8	1	4	15	20	5	6	12	18	0	0	48	67	71.64
7	AS2	2;11	0	0	0	0	7	10	11	13	1	1	13	14	0	0	9	11	0	0	41	49	83.67
8	NS	3;3	0	0	0	0	12	12	7	10	1	1	4	4	0	0	10	11	1	1	35	39	89.74
9	AS4	3;7	0	0	0	0	12	12	25	27	3	3	26	27	0	0	28	28	1	2	95	99	95.96

10	AK4	3;8	3	4	0	0	8	9	23	23	1	1	10	10	0	0	13	15	1	1	59	63	93.65
11	VC1	4;2	0	0	0	0	3	4	6	10	5	5	10	13	0	0	9	17	2	2	35	51	68.63
12	VC2	4;2	1	1	0	0	5	5	8	10	2	2	10	11	0	0	12	16	4	4	42	49	85.71
13	LV	4;4	2	2	0	0	3	4	11	17	0	0	19	23	0	0	6	18	0	0	41	64	64.06
14	AG1	4;5	11	11	0	0	9	10	28	28	4	4	13	14	0	0	18	21	5	5	88	93	94.62
15	AK1	4;5	0	0	0	0	4	4	3	5	0	5	5	7	0	0	3	7	1	22	16	50	32.00
16	AK2	4;5	3	3	3	3	19	19	43	45	0	0	49	53	0	0	16	16	7	7	140	146	95.89
17	SS2	5;1	2	2	0	0	4	4	26	26	0	0	14	14	2	2	10	11	2	2	60	61	98.36
18	RS	5;2	2	2	0	0	9	9	13	36	0	0	51	55	4	5	17	23	3	3	99	133	74.44
19	AS3	5;2	0	0	0	0	2	2	9	9	9	9	55	57	0	0	2	2	2	3	79	82	96.34
20	SS1	5;6	3	3	0	0	15	15	19	19	8	8	7	7	0	0	5	11	1	1	58	64	90.63
21	AK3	5;6	2	2	0	0	7	7	14	14	2	2	19	19	0	0	10	10	0	0	54	54	100.00
	Total		29	30	3	3	167	183	285	340	37	45	403	449	11	13	204	265	30	53	1169	1381	84.65

6.2 Demonstrative/demonstrative+*vaalaa*

A demonstrative and a demonstrative+*vaalaa* as a modifier to a noun serves to express the deictic reference of the noun (refer to Section 3.2), as seen in its grammatical appearance in the data in (1) and (2) below.

(1) ab kyaa kar diyaa **is** laRke -ne (AT-AK2:4;5)
now Wh do give.PERF this.SG boy.OBL -ERG
'now what has this boy done?'

(2) **us** vaale bag -me hE (BT-AS:4;7)
that.OBL.SG *vaalaa*.OBL bag.M.SG -LOC be.PRS.3P
'(it) is in that bag'

As can be seen in Tables 6 and 7 below, there are 60 and 30 instances of CNPs with a demonstrative or a demonstrative+*vaalaa* in the Bag Task and Agreement Task respectively. There is nearly 100% accuracy in the number agreement that appears on its oblique form with only 1 error by a 3 year old participant in the latter.

Table 6: Agreement in Demonstrative/demonstrative+*vaalaa* in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	8	8	100.00
2	AA	2;10	0	0	-
3	ST1	2;11	0	0	-
4	AG1	3;7	9	9	100.00
5	RG1	3;7	0	0	-
6	SS2	3;11	1	1	100.00
7	RM	4;7	5	5	100.00

8	AS	4;7	8	8	100.00
9	TB	4;9	15	15	100.00
10	NK	5;1	4	4	100.00
11	HSS	5;3	10	10	100.00
12	AKS	5;11	0	0	-
	Total		60	60	100.00

Table 7: Agreement in Demonstrative/demonstrative+*vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	0	0	-
2	VC3	2;1	0	0	-
3	VG	2;3	0	0	-
4	DM	2;6	0	0	-
5	NN	2;10	0	0	-
6	AS1	2;11	0	0	-
7	AS2	2;11	0	0	-
8	NS	3;3	0	0	-
9	AS4	3;7	0	0	-
10	AK4	3;8	3	4	75.00
11	VC1	4;2	0	0	-
12	VC2	4;2	1	1	100.00
13	LV	4;4	2	2	100.00
14	AG1	4;5	11	11	100.00
15	AK1	4;5	0	0	-

16	AK2	4;5	3	3	100.00
17	SS2	5;1	2	2	100.00
18	RS	5;2	2	2	100.00
19	AS3	5;2	0	0	-
20	SS1	5;6	3	3	100.00
21	AK3	5;6	2	2	100.00
	Total		29	30	96.67

Irrespective of which of the overt K morphological marker has triggered the oblique concord on the demonstrative or demonstrative+*vaalaa*, the oblique form shows agreement in number feature with the head nominal, as seen in (3) to (7) below.

(3) aur **us** star -ko (AT-SS2:5;1)
and that.OBL.SG star -ACC
nikaal deNge…
take out give.FUT.PL
'and (we) will take out/remove that star'

(4) **in** logoN -ko (AT-RS:5;2)
these.OBL.PL people.OBL -DAT
pasiinaa aa gayaa
sweat.M come go.PERF.M.SG
'these people were sweating' (Lit. 'sweat came to these people')

(5) **is** laRkii ke paas (AT-SS1:5;6)
this.OBL.SG girl -*kaa*.OBL near
'with this girl'

(6) **us** vaale bag -me hE (BT-AS:4;7)
that.OBL.SG *vaalaa*-OBL bag.M.SG -LOC AUX.PRS.3P
'in that bag'

(7) aur **in** dono -ke liye (BT-TB:4;9)
and these two -*kaa*.OBL for
'and for these two'

One observation to be made is that the frequency of use of demonstratives in nominal structures increases with age. Two year old participants are seen to produce almost no instances of the same than older participants.

6.3 Wh-word/wh-word+*vaalaa*

Even though the stimuli in the tasks did not provide any specific context for the use of wh-words in the modifying constituents of a CNP for capturing the contrastive properties of nominal referents (refer to Section 3.3), there are a few instances of it in the data, as seen in Tables 8 and 9.

Table 8: Agreement in Wh-word/wh-word+*vaalaa* in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	0	0	-
2	AA	2;10	1	1	100.00
3	ST1	2;11	0	0	-
4	AG1	3;7	1	1	100.00
5	RG1	3;7	0	0	-
6	SS2	3;11	0	0	-
7	RM	4;7	0	0	-
8	AS	4;7	1	1	100.00
9	TB	4;9	8	8	100.00

10	NK	5;1	0	0	-
11	HSS	5;3	0	0	-
12	AKS	5;11	0	0	-
	Total		11	11	100.00

Table 9: Agreement in Wh-word/wh-word+*vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	0	0	-
2	VC3	2;1	0	0	-
3	VG	2;3	0	0	-
4	DM	2;6	0	0	-
5	NN	2;10	0	0	-
6	AS1	2;11	0	0	-
7	AS2	2;11	0	0	-
8	NS	3;3	0	0	-
9	AS4	3;7	0	0	-
10	AK4	3;8	0	0	-
11	VC1	4;2	0	0	-
12	VC2	4;2	0	0	-
13	LV	4;4	0	0	-
14	AG1	4;5	0	0	-
15	AK1	4;5	0	0	-
16	AK2	4;5	3	3	100.00
17	SS2	5;1	0	0	-

18	RS	5;2	0	0	-
19	AS3	5;2	0	0	-
20	SS1	5;6	0	0	-
21	AK3	5;6	0	0	-
	Total		3	3	100.00

While 4 participants in the Bag Task have produced a wh-word to refer to a nominal, only 1 has in the Agreement Task. In each of these utterances, the form of the wh-word is seen to agree in gender and number features with the head nominal as required. Examples of these utterances are given in (8) to (11) below.

(8) aur samaira -ne **kaun-saa** hairband… (AT-AK2:4;5)
and Samaira -ERG which.M.SG hairband
rubberband lagaayaa hE
rubberband put.M.SG AUX.PRS.3P
'and which hairband…rubberband has Samaisa worn?'

(9) aur **kaun-se** purse hE (BT-TB:4;9)
and which.PL purse.OBL AUX.PRS.3P
'and which purses are there?'

(10) **kaun-saa** vaalaa aataa hE (BT-TB:4;9)
which.M.SG *vaalaa*.M.SG come.IMPERF.M.SG AUX.PRS.3P
dekhte hE
'let's see which one comes'

(11) us -me dekhte hE (BT-AS:4;7)
that.OBL.SG -LOC see.PL AUX.PRS.3P
kaun-se colour -kaa hE
which-OBL **colour** *-kaa* AUX.PRS.3P
'let's see in this which colour (it) is'

6.4 Quantifiers/Quantifier+*vaalaa*

Ordinal numbers and quantifiers with an *–aa* ending agreeing in gender and number with the head nominal (refer to Section 3.4) were produced by the participants in the study in much higher numbers than wh-words and demonstratives. This can be seen in Tables 10 and 11 below.

Table 10: Agreement in Quantifiers/Quantifier+*vaalaa* in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	2	2	100.00
2	AA	2;10	0	0	-
3	ST1	2;11	0	0	-
4	AG1	3;7	6	7	85.71
5	RG1	3;7	3	3	100.00
6	SS2	3;11	7	8	87.50
7	RM	4;7	5	5	100.00
8	AS	4;7	6	6	100.00
9	TB	4;9	1	1	100.00
10	NK	5;1	1	1	100.00
11	HSS	5;3	0	0	-
12	AKS	5;11	2	2	100.00

	Total		33	35	94.29

Table 11: Agreement in Quantifiers/Quantifier+*vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	6	7	85.71
2	VC3	2;1	8	8	100.00
3	VG	2;3	18	23	78.26
4	DM	2;6	7	7	100.00
5	NN	2;10	0	1	0.00
6	AS1	2;11	9	11	81.82
7	AS2	2;11	7	10	70.00
8	NS	3;3	12	12	100.00
9	AS4	3;7	12	12	100.00
10	AK4	3;8	8	9	88.89
11	VC1	4;2	3	4	75.00
12	VC2	4;2	5	5	100.00
13	LV	4;4	3	4	75.00
14	AG1	4;5	9	10	90.00
15	AK1	4;5	4	4	100.00
16	AK2	4;5	19	19	100.00
17	SS2	5;1	4	4	100.00
18	RS	5;2	9	9	100.00
19	AS3	5;2	2	2	100.00
20	SS1	5;6	15	15	100.00

21	AK3	5;6	7	7	100.00
	Total		167	183	91.26

Grammatical agreement in gender and number features on the quantifier and ordinal numbers can be seen in the data in (12) to (14) below.

(12) bahaut **saare** jaanvar hE (BT-RG1:3;7)
lot all.PL animals AUX.PRS.3P
aap ke paas
you.HON -kaa.OBL near
'you have many animals'

(13) **itne** **saare** balloon (AT-PA:1;11)
so much.PL all.PL balloon.PL
'so many balloons'

(14) ab **duusrii** story (AT-AK3:5;6)
now second.F.SG story.F.SG
'now the second story'

As can be seen in Tables 10 and 11 the rate of accuracy in application of agreement in a CNP with a quantifier in its modifying structure is 94% and 92% in the Bag Task and the Agreement Task, respectively. Examples of these errors can be seen in (15) to (18) below.

(15) puuraa gir gayaa caae (AT-VG:2;3)
all fall go.M.SG tea
'all the tea spilled'

(16) saare fish hE (AT-VC1:4;2)
all.PL fish be.PRS.3P
'all are fish'

(17) saaraa (caae) gir gaii (AT-PA:1;11)
all.M.SG tea.F.SG fall go.PERF.F.SG
'all the tea spilled'

(18) us ke puuraa clothes (AT-AS3:5;2)
s/he.OBLSG *kaa*.PL whole.M.SG clothes
gaNde ho gae
dirty.PL be go.PERF.PL
'all his/her clothes became wet'

In (15) the incorrect agreement on the quantifier as well as the verb suggests an incorrect feature value assigned to the nominal may be the cause of ungrammatical agreement on both. A similar cause may be attributed to the ungrammaticality in (16), but cannot be confirmed owing to the absence of a verbal constituent that shows gender and number agreement.

The utterances in (17) and (18), however, show the participant having two systems of agreement in place. One is limited to the CNP structure, and the other in the verbal domain. In (17) the quantifier does not agree in gender feature with the head nominal even though the agreement system in the clause structure is accurate, and in (18) number agreement on the quantifier is incorrect, even though the possessive encoding *–kaa* postposition and the verbal constituents agree correctly in number with the agreement controlling nominal.

6.5 Adjectives/Adjective+*vaalaa*

A large number of CNPs with adjectival modification were seen in both the Bag Task and the Agreement Task, as the stimuli in both these tasks was specifically designed to capture their production with the aid of contrastive properties in toys and images. Of all the adjectives produced, the number of agreeing adjectives (refer to Section 6.1) in the Bag Task and the Agreement Task was 148 and 340 respectively.

Table 12: Agreement in Adjectives/Adjective+*vaalaa* in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	6	6	100.00
2	AA	2;10	2	2	100.00
3	ST1	2;11	10	10	100.00
4	AG1	3;7	4	4	100.00
5	RG1	3;7	9	9	100.00
6	SS2	3;11	23	23	100.00
7	RM	4;7	16	16	100.00
8	AS	4;7	16	16	100.00
9	TB	4;9	41	41	100.00
10	NK	5;1	1	1	100.00
11	HSS	5;3	14	14	100.00
12	AKS	5;11	6	6	100.00
	Total		148	148	100.00

Table 13: Agreement in Adjectives/Adjective+*vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	1	1	100.00
2	VC3	2;1	7	9	77.78
3	VG	2;3	13	16	81.25
4	DM	2;6	11	11	100.00
5	NN	2;10	1	3	33.33

6	AS1	2;11	6	8	75.00
7	AS2	2;11	11	13	84.62
8	NS	3;3	7	10	70.00
9	AS4	3;7	25	27	92.59
10	AK4	3;8	23	23	100.00
11	VC1	4;2	6	10	60.00
12	VC2	4;2	8	10	80.00
13	LV	4;4	11	17	64.71
14	AG1	4;5	28	28	100.00
15	AK1	4;5	3	5	60.00
16	AK2	4;5	43	45	95.56
17	SS2	5;1	26	26	100.00
18	RS	5;2	13	36	36.11
19	AS3	5;2	9	9	100.00
20	SS1	5;6	19	19	100.00
21	AK3	5;6	14	14	100.00
	Total		285	340	83.82

As can be seen in Tables 12 and 13 above, accuracy in the Bag Task with respect to feature agreement was 100%, and was approximately 84% in the Agreement Task. The higher rate of accuracy in the Bag Task can be accounted for by the fact that all the animals selected to conduct the task were of masculine gender, and the participants were observed to refer to each of them one at a time, particularly in contexts requiring adjectival modification. In the Agreement Task, however, this drawback was overcome and contrasts in gender and number were maintained to capture their production in contexts of adjectival modification. Utterances in (19) to (24) provide examples of grammatical feature agreement on the adjectival structure, with and without the *–vaalaa* postposition.

(19) **itnaa** **baRaa** (BT-AM:2;10)
so much.M.SG big.M.SG
'so big'

(20) ye **choTaa** magarmach (BT-RM:4;7)
this.SG small.M.SG magarmach
'this small magarmach'

(21) **ache** shoes (AT-VC3:2;1)
good.PL shoes
'good shoes'

(22) ye **gaNdii** **vaalii** car hE (AT-VG:2;3)
this.SG bad.F.SG *vaalaa*.F.SG car.F.SG be.PRS.3P
'this is the bad car'

(23) is -ke paas **TuuTii** **vaalii** (AT-VC2:4;2)
s/he.OBL.SG -*kaa*.OBL near broken.F.SG *vaalaa*/F.SG
(plate) hE
(plate) be.PRS.3P
's/he has the broken one'

(24) ye dirty **vaalii** car (AT-AK2:4;5)
this.SG dirty *vaalaa*.F.SG car.F.SG
'this dirty car'

Most of the errors in feature agreement on adjectives were observed to be the outcome of either an incorrect gender value assigned to the head nominal in the lexicon, or the assignment of default masculine singular values assigned to the noun. Utterances in (25) and (26) below appear to be instances of the former and the latter of these, respectively.

(25) diidii -kii choTii vaalii plane (AT-AS4:3;7)
elder sister -*kaa*.F.SG small.F.SG *vaalaa*.F.SG plane

'elder sister's small plane'

(26) girl -ke paas baRaa train (AT-VC1:4;2)
girl -*kaa*.OBL near big.M.SG train.M.SG
'girl's big train'

However, all the errors cannot clearly be classified as the result of these two causes as the data does not provide sufficient evidence for each participant to indicate what grammatical gender value has been assigned in the individual lexicon to each of the lexical items under preview.

A perusal of Table 13 reveals a very high rate of errors in adjectival agreement by one participant (RS:5;2), where the accuracy rate is only 36%.

(27) ye sab se choTaa khiRkii (AT-RS:5;2)
this.SG all small.M.SG window.F.SG
'the smallest window'

(28) ye us -se baRaa khiRkii (AT-RS:5;2)
this.SG that.OBLSG -INSTR big.M.SG window.F.SG
'this window which is larger than that'

(29) laRkii vaalii choTii (AT-RS:5;2)
girl.F.SG *vaalaa*.F.SG small.F.SG
plane hE
plane be.PRS.3P
'the girl's plane is small'

(30) aur laRke vaaliii baRii plane (AT-RS:5;2)
and boy.OBL *vaalaa*.F.SG big.F.SG plane
'and the girl's plane is big '

The errors made by this participant can clearly be attributed to an incorrect gender value assigned to some of the nominals in the context, as s/he is seen to do so across the board for all utterances where this nominal controls agreement.

6.6 Participial Verbs

No instances of participial verbs modifying a nominal were found in the Bag Task, and on the other hand 45 instances of the same were produced in the Agreement Task. This is because a part of the Agreement Task specifically provided some pictorial stimuli the description of which required the use of participial verbs (refer to Section 3.6).

Table 14: Agreement in Participial Verbs in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	0	0	-
2	VC3	2;1	0	0	-
3	VG	2;3	0	0	-
4	DM	2;6	0	0	-
5	NN	2;10	0	0	-
6	AS1	2;11	1	4	25.00
7	AS2	2;11	1	1	100.00
8	NS	3;3	1	1	100.00
9	AS4	3;7	3	3	100.00
10	AK4	3;8	1	1	100.00
11	VC1	4;2	5	5	100.00
12	VC2	4;2	2	2	100.00

13	LV	4;4	0	0	-
14	AG1	4;5	4	4	100.00
15	AK1	4;5	0	5	0.00
16	AK2	4;5	0	0	-
17	SS2	5;1	0	0	-
18	RS	5;2	0	0	-
19	AS3	5;2	9	9	100.00
20	SS1	5;6	8	8	100.00
21	AK3	5;6	2	2	100.00
	Total		37	45	82.22

As seen in Table 14 above, most of the participants who produced CNPs with participial verbs have shown accurate feature agreement in these structures. Instances of such grammatical utterances can be seen in (31) to (33) below.

(31) Spiderman **laTkaa** **huaa** (AT-NS:3;3)
Spiderman.M.SG hanging.M.SG be.PART.F.SG
hE
AUX.PRS.3P
'Spiderman is hanging'

(32) ab girl ke paas (AT-VC1:4;2)
now girl kaa.OBL near
TuuTii **huii** chair
broken.F.SG be.PART.F.SG chair
'now the broken chair with the girl '

(33) (seb) niice **gire** (AT-SS1:5;6)
apple.PL down.PL fallen.PL
hue hE
be.PART.PL AUX.PRS.3P

'the apples are lying fallen'

There are only two participants with errors in these structures, as seen in (34) and (35) below, and the first of these participants appears to apply a default masculine singular feature set in his/her agreement in the CNP.

(34) TuuTaa huaa (AT-AS1:2;11)
Broken.M.SG be.PART.M.SG

(35) is ko juRaa huii chair (AT-AK1:4;5)
s/he -ACC mended.M.SG be.PART.F.SG chair
is ko TuuTaa huii chair
s/he -ACC broken.M.SG be.PART.F.SG chair
'the mended chair to him/her, and the broken chiar to him/her'

What emerges as peculiar to the second participant is the *juRaa huii* construction, where it appears that two sets of features are controlling agreement on different constituents of the participial verb structure. This peculiarity also appears when the participial verb is not part of a CNP, but appears as a predicate, as in (36) below.

(36) in -me water bharaa (AT-AK1:4;5)
these.OBL.PL -LOC water filled.M.SG
huii hE
be.PART.F.SG AUX.PRS.3P
'these have water filled in them'

Irrespective of the gender value of the head noun being referred to in both the CNP and the predicate structures, the participant uses the same form, and there are no instances of *bharii huaa*. In other words, the M-F order of the feature sets used in the structure remains invariable in all instances of participial verbs. This suggests that for this individual grammar the participial verb has a frozen form at this stage of his/her developing grammar and it is not two sets of features controlling agreement on the constituents of the participial verb as was initially thought.

6.7 Infinitive Verb+*vaalaa*

This category of modifier is another one with very few instances in the entire set of data collected for this study. The Bag Task has only 5 instances by 2 participants, and the Agreement Task has 13 instances by 3 participants. Table 15 below lists these 5 participants.

Table 15: Agreement in Infinitive Verb+*vaalaa* in the Bag Task and Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	Task	INITIALS	AGE	C	T	%
1	BT	RG1	3;7	3	3	100.00
2	BT	NK	5;1	2	2	100.00
3	AT	AS1	2;11	5	6	83.33
4	AT	SS2	5;1	2	2	100.00
5	AT	RS	5;2	4	5	80.00
		Total		16	18	88.89

Grammatical instances of this structure consist of human referents, as seen in (37) and (38) below, and inanimate referents as seen in (39) and (40).

(37) ye juice **becne** vaalaa (AT-SS2:5;1)
he juice sell.OBL *vaalaa*.M.SG
'this person who sells juice'

(38) shop **calaane** vaale (AT-RS:5;2)
shop operate.CAUS.INFI.OBL *vaalaa*.OBL
bhaiyaa ne…
older brother ERG
'the older-brother who runs the shop'

(39) nimbu-paani **banaane** vaalii shop se… (AT-RS:5;2)
nimbu-paani make.INFI.OBL *vaalaa*.F.SG shop from
'from the shop that makes nimbu-paani'

(40) is -kaa ye (velcro) **cipkaane** vaalaa hE (BT-NK:5;1)
this.OBL -kaa.M.SG this Velcro.M.SG stick.INFI.OBL vaalaa be.PRS.3P
'this(velcro) of this is to stick'

As the *–vaalaa* postposition requires, the infinitive participle in its complement is seen to accurately inflect for oblique morphology in each of these instances.

6.8 *-kaa* postposition/*–kaa+vaalaa*

The *–kaa* postposition in Hindi encodes a number of semantic relations between a head nominal and another nominal/nominalized complement (refer to Section 3.7). This relational postposition is distinct from other forms in its class of phrasal clitics with the property of inflecting for agreement with a partial feature set of the head nominal. As can be seen in Tables 16, 17 and 18, this relational marker is used extensively in all the three tasks. These tables list the accuracy in agreement appearing on this marker across the three tasks for each participant.

Table 16: Agreement in *–kaa*/*–kaa+vaalaa* in the Case Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	CP	3;5	9	10	90.00
2	ST2	3;7	9	11	81.82
3	RG1	3;7	9	12	75.00
4	AG1	3;7	9	12	75.00
5	SS1	3;9	4	7	57.14
6	RG2	4;3	10	12	83.33

7	SR	4;4	6	12	50.00
8	TA	4;7	12	12	100.00
9	HA	4;7	11	11	100.00
10	RM	4;7	11	12	91.67
11	AS	4;7	11	11	100.00
12	TB	4;9	11	11	100.00
13	KR	5;0	11	11	100.00
14	NK	5;1	11	11	100.00
15	HSS	5;3	6	11	54.55
16	HP	5;5	11	11	100.00
17	SS3	5;6	9	11	81.82
18	IS	5;6	7	11	63.64
19	AG2	5;8	10	10	100.00
20	SM	5;9	11	12	91.67
21	AKS	5;11	8	11	72.73
Total			196	232	84.48

Table 17: Agreement in *–kaa/–kaa+vaalaa* in the Bag Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	8	11	72.73
2	AA	2;10	5	5	100.00
3	ST1	2;11	15	20	75.00
4	AG1	3;7	22	22	100.00
5	RG1	3;7	15	15	100.00
6	SS2	3;11	19	20	95.00

7	RM	4;7	5	5	100.00
8	AS	4;7	27	27	100.00
9	TB	4;9	12	12	100.00
10	NK	5;1	22	25	88.00
11	HSS	5;3	8	8	100.00
12	AKS	5;11	0	2	0.00
Total			158	172	91.86

Table 18: Agreement in *–kaa/–kaa+vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S. no.	INITIALS	AGE	C	T	%
1	PA	1;11	3	3	100.00
2	VC3	2;1	30	34	88.24
3	VG	2;3	31	41	75.61
4	DM	2;6	10	11	90.91
5	NN	2;10	9	12	75.00
6	AS1	2;11	15	20	75.00
7	AS2	2;11	13	14	92.86
8	NS	3;3	4	4	100.00
9	AS4	3;7	26	27	96.30
10	AK4	3;8	10	10	100.00
11	VC1	4;2	10	13	76.92
12	VC2	4;2	10	11	90.91
13	LV	4;4	19	23	82.61
14	AG1	4;5	13	14	92.86
15	AK1	4;5	5	7	71.43

16	AK2	4;5	49	53	92.45
17	SS2	5;1	14	14	100.00
18	RS	5;2	51	55	92.73
19	AS3	5;2	55	57	96.49
20	SS1	5;6	7	7	100.00
	AK3	5;6	19	19	100.00
	Total		403	449	89.76

The rate of accuracy in agreement on the *–kaa* postposition is seen to be approximately 84%, 92% and 90% in the Case Task, Bag Task and Agreement Task respectively. Utterances in (40) to (45) below are examples of grammatical agreement on *–kaa* as appears in the participants' language production.

(40) laRkii **-ke** kapRe, boy **-kaa** kapRaa (CT-RG1:3;7)
girl *-kaa*.PL clothes.M.PL, boy *-kaa*.M.SG cloth.M.SG
'girl's clothes, boy's clothes'

(41) ye rahul **-kii** ghaRii hE, (CT-KR:5;0)
this Rahul.M.SG *-kaa*.F.SG watch.F.SG be.PRS.3P
ye riya **-kii** ghaRii hE
this Riya.F.SG *-kaa*.F.SG watch.F.SG be.PRS.3P
'this is Rahul's watch, this is Riya's watch'

(42) is **-kaa** muuNh (BT-ST1:2;11)
s/he.OBL.SG *-kaa*.M.SG mouth.M.SG
khultaa hE
open.IMPERF AUX.PRS.3P
'this one's mouth opens'

(43) is **-kii** suuND niche (BT-AS:4;7)
this.OBL.SG *-kaa*.F.SG trunk.F.SG down.M.SG
hE

AUX.PRS.3P

'his/her trunk is lowered'

(44) ek apple **-kaa** peR (AT-AG1:4;5)

one apple *-kaa*.M.SG tree

'an apple tree'

(45) is **-ke** **vaale** -me (AT-RS:5;2)

s/he.OBL *-kaa*.OBL *vaalaa*.OBL -LOC

phuul hE

flower be.PRS.3P

'there are flowers in his/her (something)'

The use of *–kaa* in the utterances above is seen to encode alienable possession in (40) and (41), inalienable possession (body parts/part-whole relations) in (42) and (43) and modification by noun in (44) and (45).

Instances of ungrammatical agreement on *–kaa* as seen in the data could be classified under two types: first, wrong values assigned to the feature set of the agreement controlling nominal, which could be due to an incorrect value in the lexicon or a default value assigned in the absence of values in the lexicon; and second agreement with the nominal in the modifying structure instead of the modified head nominal. Errors of the first type can be seen in utterances (46) to (50) in the data from the three tasks below

(46) ye Rahul -kii Rahul -kii cashmaa, (CT-AG1:3;7)

this Rahul.M.SG *-kaa*.F.SG Rahul *-kaa*.F.SG spectacles.M.SG

ye laRkii -kii cashmaa.M.SG

this girl *-kaa*.F.SG spectacles.M.SG

'these (are) Rahul's spectacles, these (are) the girl's spectacles'

(47) ye watch shiv -kaa, (CT-IS:5;6)

this watch.F.SG Shiv.M.SG *-kaa*.M.SG

aur ye watch ira -kaa

and this watch.F.SG Ira.F.SG -*kaa*.M.SG

and this watch.F.SG

(48) is -kaa teeth nahii kaaTegaa (BT-AM:2;10)
s/he.OBL -*kaa*.M.SG teeth NEG bite.FUT.M.SG.3P
is -kaa suuND niice hE (BT-AKS:5;11)
s/he.OBL -*kaa*.M.SG trunk lowered be.PRS.3P
is -kaa suuND uupar hE
s/he.OBL -*kaa*.M.SG trunk raised be.PRS.3P
'his/her trunk is lowered, his/her trunk is raised'

(49) is -kaa dirty car (AT-AK1:4;5)
s/he -*kaa*.M.SG dirty car.M.SG
is -kaa clean car
s/he -*kaa*.M.SG clean car.M.SG
'his/her dirty car, his/her clean car'

(50) ciiTii -kaa hE davaaii (AT-AS1:2;11)
ant.F.SG -*kaa*.M.SG be.PRS.3P medicine.F.SG
'the medicine is for ants'

Errors of the second type can be seen in utterances (51) to (56) from the Case Task and Agreement Task below.

(51) ye laRkii -kii bag (CT-RG1:3;7)
this girl -*kaa*.F.SG bag.M.SG
aur ye boy kaa bag
and this boy -*kaa*.M.SG bag.M.SG
'this (is) the girl's bag and this is the boy's bag'

(52) ye laRkii -kii hE, (CT-SS1:3;9)
this girl -*kaa*.F.SG be.PRS.3P
aur ye laRke -kaa (T-shirt) hE

and this boy.M.SG.OBL *-kaa*.M.SG T-shirt be.PRS.3P
'this is the girl's (something), and this is the boy's T-shirt'

(53) rahul -kaa, riya -kii (Topii) (CT-SM:5;9)
Rahul.M.SG *-kaa*.M.SG, Riya.F.SG *-kaa*.F.SG (cap)
'Rahul's (something), Riya's cap'

(54) diidii -kii to baNd vaalii (AT-AS4:3;7)
elder sister -kaa.F.SG EMPH closed vaalaa.F.SG
(bag) hE
(bag) be.PRS.3P

(55) ye in bacco -ke ghar hE (AT-VC1:4;2)
these these.OBL.PL children.OBL *-kaa*.PL house.SG be.PRS.3P
aur ye papa -ke ghar hE
and this father *-kaa*.PL house.SG be.PRS.3P
'this is the children's house and this is father's house'

(56) laRke -kaa baRaa aeroplane (AT-AK2:4;5)
boy.OBL *-kaa*.M.SG big.M.SG aeroplane.M.SG
hE, laRkii -kii choTii aeroplane
be.PRS.3P girl *-kaa*.F.SG small.F.SG aeroplane.M.SG
hE
be.PRS.3P
'the boy has a big aeroplane, the girl has a small aeroplane'

This phenomena of agreement in a *–kaa* structure with the nominal in the modifying structure, instead of the head nominal which is being modified is seen in the production of 9 participants across the study. Even though instances of its appearance are very few, their appearance in participants' grammar across age-groups suggests a systemic pattern in the developing grammar. The table below lists the number of participants in whose language production, this error type is seen.

Table 19: Summary of incorrect agreement in *–kaa* structures with the modifying nominal

S.no	Task	Child	Age	No. of instances of agreement with the modifying nominal instead of the modified nominal
1	CT	CP	3;5	1
2	CT	RG1	3;7	3
3	CT	AG1	3;7	1
4	CT	SS1	3;9	1
5	CT	RM	4;7	1
6	CT	SM	5;9	1
7	AT	AS4	3;7	1
8	AT	VC1	4;2	2
9	AT	AK2	4;5	2
		Total		13

For each instance of these errors, there exists in the data evidence to suggest agreement with the modifying nominal, in the form of an utterance for the same head noun, and a possessor of different gender and number value. If unavailable in a possessive construction, evidence is seen in the form of grammatical gender and number values of this noun as manifested in the verbal domain.

6.9 Noun+*vaalaa*

Modification of a nominal by another nominal may be expressed in the language with a *–kaa* postposition or the *vaalaa* postposition, both of which show partial feature agreement with the modified head nominal. The data collected in the study produced a large number of N+*vaalaa*+N structures in the Agreement Task as can be seen in Tables 20 and 21 below.

Table 20: Agreement in Noun+*vaalaa* in the Bag Task

S.no.	INITIALS	AGE	C	T	%
1	AM	2;10	0	0	-
2	AA	2;10	0	0	-
3	ST1	2;11	0	0	-
4	AG1	3;7	0	0	-
5	RG1	3;7	0	0	-
6	SS2	3;11	0	0	-
7	RM	4;7	1	1	100.00
8	AS	4;7	0	0	--
9	TB	4;9	2	2	100.00
10	NK	5;1	3	3	100.00
11	HSS	5;3	0	0	-
12	AKS	5;11	0	0	-
13	Total		6	6	100.00

Table 21: Agreement in Noun+*vaalaa* in the Agreement Task (C=Correct, T=Total, %=Accuracy %)

S.no.	INITIALS	AGE	C	T	%
1	PA	1;11	0	0	-
2	VC3	2;1	1	1	100.00
3	VG	2;3	7	11	63.64
4	DM	2;6	15	17	88.24
5	NN	2;10	1	1	100.00
6	AS1	2;11	12	18	66.67

7	AS2	2;11	9	11	81.82
8	NS	3;3	10	11	90.91
9	AS4	3;7	28	28	100.00
10	AK4	3;8	13	15	86.67
11	VC1	4;2	9	17	52.94
12	VC2	4;2	12	16	75.00
13	LV	4;4	6	18	33.33
14	AG1	4;5	18	21	85.71
15	AK1	4;5	3	7	42.86
16	AK2	4;5	16	16	100.00
17	SS2	5;1	10	11	90.91
18	RS	5;2	17	23	73.91
19	AS3	5;2	2	2	100.00
20	SS1	5;6	5	11	45.45
21	AK3	5;6	10	10	100.00
	Total		204	265	76.98

There is a lower rate of accuracy in the agreement on *–vaalaa* structures in the Agreement Task than was seen for *–kaa* structures. Grammatical instances of agreement on *–vaalaa* is seen utterances (57) to (60) below.

(57) … gaaRii **vaale** bhaiyaa (AT-DM:2;6)
…vehicle.F.SG *vaalaa*.HON elder brother
aa gae
come go.PERF.HON
'the older brother who has a vehicle came'

(58) girl -ke paas frog **vaalii** bottle (AT-VC1:4;2)
girl -*kaa*.OBL near frog.M.SG *vaalaa*.F.SG bottle.F.SG
hE

be.PRS.3P

'the girl has the bottle with the frog'

(59) flower **vaalii** book (AT-VC2:4;2)

flower.M.SG *vaalaa*.F.SG book.F.SG

'the book of flowers'

(60) jhaNDe **vaalii** cycle milii (AT-RS:5;2)

flag.M.SG.OBL *vaalaa*.F.SG cycle.F.SG receive.PERF.F.SG

'(someone) received the cycle with the flag'

Like the errors in agreement in *–kaa* structures, the errors in agreement in *–vaalaa* structures can also be classified into two types: wrong values assigned to the feature set of the agreement controlling nominal, and agreement with the wrong nominal in the CNP. Errors of the former type can be seen in (61) to (63) below.

(61) flower vaalii gamlaa (AT-VC1:4;2)

flower.M.SG *vaalaa*.F.SG pot.M.SG

'the flower pot'

(62) ek flower vaalii balloons (AT-LV:4;4)

one flower.M.SG *vaalaa*.F.SG balloons.M

'a balloon with flowers'

(63) girl -kaa butterfly (AT-AK1:4;5)

girl *-kaa*.M.SG butterfly.F.SG

vaalaa (book)

vaalaa.M.SG book.F.SG

'the girl's book with butterflies'

Errors of the latter type, that is agreement with the modifying nominal instead of the modified nominal can be seen in (64) to (67) below.

(64) is -ke paas flag (AT-AK4:3;8)

h/she.OBL -*kaa*.OBL near flag.M.SG
vaalaa (cycle) hE
vaalaa.M.SG cycle.F.SG be.PRS.3P
'he/she has the cycle with the flag'

(65) girl -ke paas flower vaale (balloon) (AT-VC1:4;2)
girl -*kaa*.OBL near flower.M.SG *vaalaa*.PL balloon.M.
'the balloon with flowers (is) with the girl'

(66) aur girl -ko flowers vaale (balloon) (AT-VC2:4;2)
and girl -DAT flowers *vaalaa*.PL balloon.M
'and the girl (received) the balloon with flowers'

(67) laRkii -ko flower vaale aur (AT-AG1:4;5)
girl -DAT flower *vaalaa*.PL and
laRke -ko star vaale (balloon)
boy.OBL -DAT star *vaalaa*.PL balloon
'the girl (received) the balloon with flowers
and the boy (the balloon) with stars'

Table 22 below provides a list of the participants making this type of error and the number of instances for each.

Table 22: Summary of agreement with modifying nominal in N+*vaalaa* structures in the three tasks

S.no	Task	Child	Age	No. of instances of Possessor agreement
1	AT	AK4	3;8	2
2	AT	VC1	4;2	2
3	AT	VC2	4;2	2
4	AT	AG1	4;5	2
		Total		8

Four participants in the Agreement Task are seen to make this type of error in 2 instances each. The fact that in each of these errors, agreement is taking place with the incorrect nominal, specifically with the modifying nominal, is substantiated by the appearance of accurate feature values of the head nouns of these CNPs in other constructions by the individual participants. Like the *–kaa* structures, recurrence of this error type across participants is evidence enough for this phenomena to be considered non-trivial.

6.10 Conclusion

This chapter concludes by summarizing the findings for agreement in the nominal domain in the data collected for this study. Amongst all the categories of modifiers that were found in the children's language production, the number of instances of demonstratives/demonstrative+*vaalaa*, wh-word/wh-word+*vaalaa*, infinitive+*vaalaa* and participle verbs were found to be very few across the participating children's data (see Tables 4 and 5). This yielded very few or negligible amount of comparable errors to be able to draw any substantial claim. Compared to these, in the use of quantifiers/quantifier+*vaalaa* and adjectives/adjective+*vaalaa* structures, the rate of errors is relatively higher across the age groups. These errors are attributable to incorrect values assigned to the features of the agreement controlling nominal, or the use of a default value assignment. However, with the given data the errors cannot be classified into these two categories. Feature agreement in *–kaa* and *-vaalaa* structures, which involved modification by another noun, yielded an interesting observation. A number of children (8 children in *–kaa* structures, 3 children in *–vaalaa* structures, and 1 in both; refer to Tables 19 and 22) were seen to choose the wrong agreement controller for these inflecting postpositions to agree with, that is, instead of agreeing in gender and number with the head noun of the noun phrase, agreement was seen to take place with the modifying noun. It may be noted that the number of these errors was small, but the same error being made by children across age groups in varying contexts suggests a pattern of progression in the developing grammar.

Chapter 7

Discussion & Conclusion

7.1 A discussion of the study's findings

The first thing that is observed in the findings in the previous two chapters with respect to acquisition of case and agreement systems in Hindi is that the number of errors per child for each of these systems is very low. This yields a low error rate per number of instances of these categories and structures, and appears to provide an insignificant amount of empirical evidence to make substantial claims about the progression of the developing grammar. While this may be true for some of the phenomena under study in this thesis, the appearance of even a small number of similar systemic errors in the cross-sectional data provides clues into the grammar that is progressing towards adult competency. Across the operations that the children employ for various case and agreement systems under study, the errors are never absolute, that is, for every ungrammatical instance, there are in the data for each child grammatical counterparts indicating a partial adherence to grammatical rules in his/her language production[1]. This chapter presents a discussion of the observations made in the findings of this study. In the process, some generalizations are made about the acquisition of these grammatical operations in the Hindi language, before concluding with questions that arise or remain unanswered.

Grammatical gender in the dual noun class system is largely in place in the children's grammar at an early age. From the youngest participants in the study aged 1;11, nominal features are accessed in a bundle from the lexicon to be made available to the derivation in both the nominal and the verbal domains. Irrespective of whether the values assigned to these features are correct or not, the operations that allow these features to be accessed by the verbal and the nominal projections for agreement to take place with this feature

[1] An exception to this statement includes the use of an idiosyncratic frozen structure in one child's language production, as seen in noun modification by particple verbs (see section 6.6 for details)

bundle appears to be largely in place. Similar observations have been made about the acquisition of grammatical gender by Polish speaking children as early as the age of 2 years (Smoczyńska 1986; also Demuth & Weschler 2012).

In the verbal domain, agreement is required to take place with the highest nominal with a non-overt K morphology, and that overt K makes the nominal unavailable for agreement (CBAC). These are rules that are highly active in the developing grammar of the youngest participants. Much before the age of 2 years, children's grammar is sensitive of the role of discourse participants and the consequent restrictions on person agreement in the verbal structure (SCOPA) without any exception. This finding is concurrent with that of Doukas and Marinis (2012), who found very high accuracy in person marking in a longitudinal dataset of spontaneous speech of Greek speaking children.

In other words, the errors in verb agreement were observed to be not a product of any systemic deficiency in the grammatical rules and operations. The only exception is that in the grammar of a few children, upto the age of 5;6, a few violations of CBAC appear only in arguments other than those in subject positions in the progressive aspect. The data shows no child violating CBAC in the context of a non-nominative subject, that is, an overtly K marked subject, but few instances of K marked objects in transitive structures and indirect objects in ditransitive structures. This finding substantiates the claim made by Pareek et al (2016) that the *language specific CBAC takes a while to stabilize in the children's grammar, more so in the progressive aspect that in the perfective aspect.*

In the nominal domain as well, the youngest participants show a sensitivity of the rules for agreement on modifying structures with the head noun of a complex noun phrase. In all modifying structures, other than those with another noun in the modifying structure, children show sensitivity to the presence of an agreement controlling nominal within its domain. Errors in modifier agreement, like those in the verbal domain show no systemic deficiency in the derivational process employed by the children. In a similar observation, in the language of children acquiring Sesotho, it is through the use of agreement on nominal modifiers, that children are inferred to have acquired the large number of noun classes of the language (Demuth & Weschler 2012).

Agreement in complex noun phrases with modification by another noun intermediated by an inflecting postposition, however, takes longer for the children to acquire. In spite of a small number of errors of this type, 12 children up to the age of 4;5 select the wrong controller for agreement in some instances of these structures. These children were observed to know the correct gender and number values of the grammatical agreement controller in other verbal and nominal structures, which rules out an incorrect value assignment to be the cause of these errors.

Given the analysis for agreement in the nominal structure that this thesis assumes, on the lines of Baker's adjectival agreement (See Section 3.5), this may be a process of transition in the grammar that sometimes extends the downward agreement mechanism, like in the verbal domain, to the nominal domain as well. This would explain why these children show some instances of agreement with the modifying noun, instead of with the modified noun.

Except for CBAC violations in the verbal domain, and choice of wrong agreement controller in the nominal domain, all other agreement errors in both these domains may be attributed to one of the following causes: an incorrect value assigned to a feature of a Hindi noun in the lexicon, the assignment of a default value to the features of a Hindi or a borrowed English noun. For Hindi nouns that children appear to not know the gender and number values, they apply a default [M.SG]. Most agreement errors with Hindi nouns in verb agreement and on nominal modifiers can be attributed to one of these reasons[2].

With a growing exposure to the English language, most children used a large number of English nouns in place of a Hindi noun. Agreement errors appear in the children's language production in both the nominal and the verbal domain where an English noun is the agreement controller. In these errors, there appears to be ambiguity between a system of transferring the grammatical gender of the Hindi counterpart or assigning a default [M.SG.] to the English counterpart. To show this statistically was difficult as for many of the English nouns used, children did not seem to have the Hindi noun in their vocabulary. Also it was difficult to determine from the data available if the incorrect agreement was

[2] With the given set of data it was not possible to clearly classify these errors in these two categories.

the result of the wrong feature set assigned to the Hindi noun, or a lack of transfer of features to the English counterpart. However the data does indicate the presence of a system that allows a default feature set assignment to the English noun, which could be due to either ignorance of the feature values of the Hindi noun or a lack of transfer of feature values to the English counterpart.

With respect to feature values of individual nouns in the lexicon, children up to the age of 3 are seen to make errors in natural gender assignment, but not beyond that age. Beyond the age of 3, assignment of incorrect gender values is only seen in nouns with non-natural gender. Mulford (1985, also in Demuth & Weschler 2012) has similarly observed that Icelandic children acquire natural gender features of nouns earlier than others with non-natural gender. Like the use of default values to both Hindi and English nouns as seen in this study, German children have been observed to omit the article encoding gender, or overgeneralize the feminine nominative/accusative article, when unsure of the grammatical class of a noun (Mills 1986, also in Demuth & Weschler 2012).

A look at the acquisition of Layer II case morphology of Hindi in this study reveals a high rate of accuracy in the use of different forms encoding semantic relations of arguments. The few omissions of these postpositions in the language production were found be the outcome of one of the following reasons: the use of an unfamiliar/novel predicate, or the assignment of an alternative (not necessarily incorrect/ungrammatical) semantic role to the argument (as seen in the Case Task, see Section 5.3.1). Across the data no child is seen to systematically overextend the use of any of these postpositions to indicate that their grammar lacks sensitivity to the syntactic and semantic role played by them in marking argument realtions. These findings are consistent with prior cross-linguistic research on acquisition of case marking. Slobin (1982) (in Tomasello 2003) has suggested that sensitivity to agent –patient relations in the grammar develops early in rich morphological systems that mark these relations with some overt phonological markers, rather than those with clues in the form of word-order. In her study of ergative marking in Hindi, Narasimhan (2005) found high accuracy in overt agent role marking in the perfective aspect, and no overextensions of this morphology to non-agentive arguments, or agentive arguments in the non-perfective aspect. In their discussion on the

acquisition of case marking systems, Eisenbeiss et al. (2006) they refer to Babyonyshev's study (1993) and note that Russian children acquire lexical case marking later due to the idiosyncratic properties of predicates to be learnt item by item. This approach to acquisition of case marking that assumes general rules to be acquired earlier than item-based specific rules could account for some of the errors in the Hindi postpositions marking grammatical relations, particularly the ones in unfamiliar/novel predicate structures.

The progression from the acquisition of general rules earlier to item-specific rules relatively later has also been seen in the acquisition of German case marking (Eisenbeiss 2002). The accusative-dative contrast is acquired by children earliest on pronouns, then on suffixes on determiners and adjectives, and lastly on nouns. A similar progression can be seen in the acquisition of oblique morphology in this study, where children have shown higher accuracy in oblique morphology on functional categories, such as personal pronouns, demonstrative pronouns, adjectives and inflecting postpositions than they have on inflecting nouns. While the children making errors in oblique morphology are sensitive of the inflectional rule on the *–aa* ending class of these functional categories, they show oblique omissions on nouns of the same declension class. The phonological cue provided by the form of the noun (that is, ending in *-aa*) is not sufficient to trigger oblique morphology on these nouns in the presence of an overt K for these children.

7.2 A brief recap

This thesis presented a study of case and agreement systems in the Hindi language and their acquisition by children. After a brief introduction in Chapter 1, chapters 2 and 3 covered detailed descriptions of the grammatical properties under study. Chapter 2 described in detail the use of oblique morphology that appears in the context of overt K markers on nominals and their modifying constituents, and the various syntactic and semantic contexts in which each of the K postpositions appear in the sentence structure. The rules governing the appearance of agreement on verbal constituents in the syntactic

structure were then described. The nature of predicate structure, aspectual context and the position of the plausible controllers of agreement, are all factors that determine agreement in the verbal domain. The description then moved to the nominal domain to describe the various categories of modifiers in chapter 3. Describing different categories of modifiers, this chapter proposed that agreement on all these categories with the modified nominal is the outcome of a similar structural configuration. The *–kaa* and *–vaalaa* postpositions and the semantic meanings that they encode are particularly were discussed in detail in this chapter.

The thesis then proceeded to the methodology employed for the collection of primary data for this study. Of the production experiment and semi-structured elicitation techniques, each was seen to have its advantages and disadvantages. While the production experiment and a semi-structured elicitation task were adapted for use in Hindi, a third task was newly developed for this study. This was a picture description and story-telling task specifically designed to capture the numerous intricacies of the agreement and case systems of Hindi. The production experiment called Case Task, yielded a high rate of targeted analyzable utterances, which were easily comparable cross-sectionally for the appearance of Layer II case morphology and verb agreement. The semi-structured Bag Task and Agreement Task, on the other hand had the advantage of yielding a rich set of sizable data with very little interference or prompting from the researcher. Even though the rate of analyzable responses with full clause structures was far lower than that in the Case Task (see Tables 4, 5, 7 and 11 in Chapter 4), the fragmented responses were also a rich repository of data for some of the grammatical structures under study. For instance, the fragmented responses were included for analysis, when looking at agreement in complex noun phrases and oblique concord. Overall, the combination of tasks employed produced a good amount of analyzable data that covered all of the grammatical structures that the study set out to capture.

The thesis then proceeded to present the findings in the data with respect to individual grammatical structures of case and agreement in the children's language production. Chapters 5 and 6 cover these results in detail and make observations regarding the children's application of the rules governing case and agreement systems of Hindi.

Omissions of morphological markers and inflections, overextensions and incorrect application of rules were specifically discussed as they reflect the children's developing grammar.

7.3 Concluding remarks

This study has to some extent attempted to set the groundwork and open avenues for acquisition research in not only Hindi, but other related languages spoken in the Indian sub-continent. The dearth of acquisition data available has created a gaping hole in the understanding the progression of children acquiring case, agreement and concord with nominal features in Hindi which is typologically distinct from the number of languages that have been studied for these grammatical properties previously. The findings of this study, with data from 46 children, itself create possibilities for further acquisition research in the domain of verb agreement. For instance, it would be interesting to investigate children's production of complex predicate structures with Long Distance Agreement, or investigate the acquisition of similar structures in different varieties of the language spoken in close proximity. The increasing use of English nouns on the children's acquisition of nominal features of Hindi nouns, or the increasing influence of English typological features in Hindi language production, both of which were observed in the data collected are other prospective areas of study. Additionally, this study has attempted to create possibilities for innovation and creation of novel diagnostic tools for acquisition studies while making use of newer and advanced softwares and devices. For instance, while conducting all three tasks a need was felt for versatility in methods to be able to adapt them cross-linguistically without being culturally or socially inappropriate.

APPENDICES

Appendix 1: Consent Form for Case Task and Bag Task

(PIS – ICF)

PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM

Title of the Project: *The Acquisition of Hindi Case Marking*

परियोजना का शीर्षक: कारक चिह्नो का अधिग्रहण

Investigators: Dr. Ayesha Kidwai (CL/SLL&CS, JNU) and Dr. Sonja Eisenbeiss (Dept. of Language and Linguistics, University of Essex)

शोधकर्ता: डा. आइशा किडवई (सी. एल./एस.एल.एल.&सी.एस, जे.एन.यू) और डा. सोन्या आइज़नबाइस (डेप्ट. ऑफ लैंग्वेज आंड लिंग्विस्टिक्स, यूनिवर्सिटी ऑफ एसेक्स)

Brief Description of the project: The project aims to study the acquisition of case markers (e.g. *-ne, -ko, -mein*, -se, *-par, -wala*) in Hindi-speaking children (aged 2-6) in the Delhi area, through the means of games that involve the child undertaking picture-matching and playing with objects. All sessions will be video- and audio-recorded, but neither video nor audio records will be made public. The language samples produced by the child will then be transcribed and stored in a database to facilitate analysis.

परियोजना का संक्षिप्त विवरण: इस शोध का उद्देश्य दिल्ली क्षेत्र के हिन्दी बोलने वाले बच्चों की भाषा में कारक चिह्नों (जैसे: -ने, -को, -में, -से, -पर, -वाला) का अधिग्रहण देखना है। यह कारक चिह्नों का उपयोग बच्चों (२-६ साल की आयु) में खेल के दौरान देखा जाएगा । इन खेलों में बच्चे तस्वीरों को मिलाना और खिलौनों के साथ खेलने जैसे कार्य करेंगे । सारे अधिवेशन वीडियो और ऑडियो रेकॉर्ड किए जाएँगे, लेकिन इनमें से कोई भी सार्वजनिक नही किए जाएँगे। बच्चों की भाषा के ये नमूनों का अनुलेखन करके सुविधाजनक विश्लेषण के लिए डेटाबेस में रखा जाएगा।

Participant Information Sheet (PIS)

(शोधभागीदार सूचना तालिका)

PART 1 **(भाग १)**	Explained in Detail (विस्तृत स्पष्टीकरण)	Research Participant/Parent's/Guardian's Response if any (शोधभागीदार/माता/पिता/सरंक्षक की प्रतिक्रिया, यदि हों तो)
1. Purpose of the Study (शोध का उद्देश्य)	[ ]	The study aims to collect data on the use of case markers in Hindi speaking

				children. इस अध्ययन का उद्देश्य हिन्दी बोलने वाले बच्चों की भाषा में कारक चिह्नों के उपयोग को देखना है।
2.	Study Procedures (शोध प्रक्रिया)	[	]	Through one semi-structured elicitation task, one elicited production task and a working memory task, the study aims to focus on the acquisition and use of case markers as a part of a child's grammatical development. Each session with the child shall not last more than one hour, and we estimate that the three tasks will be completed in 2-3 sessions. एक अर्ध-संरचित कार्य, एक उत्पादन कार्य और एक वर्किंग मेमोरी कार्य के द्वारा, यह अध्ययन बच्चों के व्याकरण विकास में कारक चिह्नों के अधिग्रहण और उपयोग की जाँच करना इस अध्ययन की प्रक्रिया रहेगी। बच्चे के साथ हर अधिवेशन एक घंटे से ज़्यादा का नही होगा, और यह तीन कार्य २ से ३ अधिवेशन में पूरा किया जाने का अनुमान है।
3.	Risk of the Study (शोध के जोखिम)	[	]	None कोई नहीं।
4.	Benefits from the Study (शोध से लाभ)	[	]	The children will practice their ability to identify and describe the characters and actions depicted in given images. बच्चे दी गयी तस्वीरों के पात्र और क्रियाओं को पहचानने की अपनी क्षमता का अभ्यास करेंगे ।
5.	Complications (जटिलतायें)	[	]	None कोई नहीं।
6.	Compensations (क्षतिपूर्ति)	[	]	We do not envisage any demands for compensations. However, as an incentive, the researchers will gift each participating child with eco-friendly toys or stickers (not

			exceeding Rs250 in value). हम किसी मुआवज़े की माँग की कल्पना नही करते हैं. लेकिन प्रोत्साहन के लिए शोधार्थी हर एक भाग लेने वाले बच्चे को ईको-फ्रेंडली खिलोने या स्टिकर देंगे (इनकी कीमत २५०रुपये से ज़्यादा नहीं होगी)
7.	Confidentiality (गोपनीयता)	[ ]	Complete anonymity is guaranteed, and the identities of neither the parents nor the children will be revealed in the publication or dissemination of findings and results. पूरी गुमनामी की गारंटी दी जाती है, और शोध के खोज और परिणामों के प्रकाशन या प्रसार में बच्चों या उनके मा-बाप की पहचान कहीं भी प्रकट नही होगी.
8.	Rights of Participants (भागीदार के अधिकार)	[ ]	• To know the kind of study it is and why it is being done. • To know the procedures being used. • Any discomforts and risks that your child or you might have during the study. • The possible benefits, if any, you might expect from taking part in the research. • How your child's records will be kept confidential (private) or who might have access to them. • Any new details that might change your decision to stay in the study. • To have a copy of the signed consent form. • To be given the time to decide freely whether to agree or not to agree to take part in the study. • To ask any questions about the study or procedures at any time. • To withdraw your child from

			the study at any time. • यह किस प्रकार का अध्ययन है और इसका उद्देश्य क्या है। • भागीदार को यह जानने का अधिकार है कि शोध में क्या तरीके इस्तेमाल किये जा रहे हैं। • स्टडी के दौरान बच्चे को होने वाली किसी भी प्रकार असुविधा अथवा हानि/ की क्षति जानकारी। • शोध में होने वाले किसी भी प्रकार के फायदे की जानकारी। • किस प्रकार आपके बच्चे की जानकारियों को गोपनीय रखा जायेगा या किन किन लोगों को यह जानकारी देने की अनुमति है। • कोई भी नयी जानकारी जो आगे स्टडी में रहने या न रहने के आपके विचार को बदल सकता है। • रजामंदी की हस्ताक्षरित प्रति दी जाए। • स्टडी में रहने या न रहने का निर्णय करने के लिए सोचने का वक़्त। • किसी भी वक़्त, स्टडी से सम्बंधित कोई भी सवाल पूछने की अनुमति । • किसी भी वक़्त अपने बच्चे को इस स्टडी से वापस ले लेने की छूट।
9.	Alternatives to Participation in the Study (शोध में भागीदारी के विकल्प)	[ ]	NA

10. Where the study will be conducted in a school/crèche/nursery school, permission to conduct the study will also be obtained from the school principal/teacher-in-charge.
अगर यह शोध किसी स्कूल/ क्रेश/ नर्सरी स्कूल में किया गया तो स्कूल के प्रधानाचार्य/ मुख्य शिक्षक से शोध की अनुमति ली जाएगी [ ]

PART 2

(भाग २)

Research Participant /Parent/Guardian Consent

(शोधभागीदार/माता/पिता/सरंक्षक की सहमति)

Name of the Participant: ……

(शोधभागीदार का नाम): ……

Sig. .....

(हस्ताक्षर):……

Name of the Parent/ Guardian

(माता/पिता/सरंक्षक का नाम): ……

Sig. .....

(हस्ताक्षर):……

Relationship to Participant

(शोधभागीदार से सम्बन्ध):……

Date .....

(दिनांक):……

Name of the Investigator/ Researcher .....

(शोधकर्त्ता/ शोधार्थी का नाम):……

Signature of the Investigator/ Researcher

(शोधकर्त्ता/ शोधार्थी के हस्ताक्षर):……

Date .....

(दिनांक):……

Name of the Witness .....

(गवाह का नाम): ……

Signature of the Witness ……

(गवाह के हस्ताक्षर):……

Date ……

(दिनांक):……

Details of Principle Investigator:

Details of Student:

Appendix 2: Consent Form for Agreement Task

(PIS – ICF)

PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM

Title of the Project: *Nominal Features in Hindi Language Acquisition: A Study of Agreement and Modification*

काम का शीर्षक: हिन्दी भाषा मे संज्ञा की विशेषताओं का सीखना: अग्रीमेंट और मॉडिफिकेशन की स्टडी

Investigator: Benu Pareek (CLIN/SLL&CS, JNU)

काम करने वाले का नाम:बेनू पारीक (सी. एल. आई. एन./एस.एल.एल.&सी.एस, जे.एन.यू)

Supervisor: Dr. Ayesha Kidwai (CLIN/SLL&CS, JNU)

सूपरवाइज़र: डा. आइशा किडवई (सी.एल.आई.एन./एस.एल.एल.&सी.एस, जे.एन.यू)

Collaborator: Dr. Sonja Eisenbeiss (Dept. of Language & Linguistics, University of Essex)

सहयोगी: डा. सोन्या आइज़नबाइस (डेप्ट. ऑफ लँग्वेज आंड लिंग्विस्टिक्स, यूनिवर्सिटी ऑफ एसेक्स)

Brief Description of the Project:

The study looks at the acquisition of nominal features in Hindi in 1;10 (1 year, 10 months) to 5 year old children in the Delhi-NCR region. Toys and sets of pictures with familiar characters, animals and objects will be used in an interactive and playful setting which will be video recorded. Participation in the study is entirely voluntary and the child or the parent may withdraw from it at any time.

परियोजना का संक्षिप्त विवरण:

यह काम दो से पाँच साल के दिल्ली-एन.सी.आर. मे रहने वाले बच्चों में हिन्दी संज्ञाओं की विशेषताओं के सीखने को देखता है. इस काम में जाने पहचाने पात्र, जानवरों और चीज़ों के खिलोंनों और तस्वीरों का इस्तेमाल मिलनसार खेल की तरह किया जाएगा जिसको वीडियो

रेकॉर्ड किया जाएगा. इस काम में भाग अपनी इच्छा से लिया जाएगा और भाग लेने वाले कभी भी इसमें से निकल सकते है.

PART I (भाग १) **Participant Information Sheet (PIS)**
(भाग लेने वाले का सूचना पत्र)

		Explained in detail (विस्तार से समझाया जाए)	
1.	Purpose of the Study काम का उद्देश्य	[ ]	The study aims to collect data on the use of Agreement in Hindi speaking children इस काम का उद्देश्य बच्चों की भाषा में अग्रीमेंट के उपयोग की जानकारी इकट्ठा करना है
2.	Study Procedures काम का तरीका	[ ]	The study will use toys and pictures that are appropriate and friendly to the child in the form of games. यह काम खिलौनों और तस्वीरों का प्रयोग खेल के रूप में करेगा जो बच्चों की उम्र के लिए उचित है.
3.	Risk of the Study काम के ख़तरा	[ ]	None कोई नहीं
4.	Benefits from the Study काम से लाभ	[ ]	The child will practice his/her ability to identify and talk about the characters and actions in pictures and toys. बच्चा दी गयी तस्वीरों और खिलौनों के पात्र और उनकी क्रियाओं को पहचानने की अपनी क्षमता का अभ्यास करेंगा.
5.	Complications उलझने	[ ]	None कोई नहीं
6.	Confidentiality गोपनीयता	[ ]	Complete anonymity is guaranteed, and the identities of neither the children nor the parents will be revealed in any publication or dissemination of the findings and results. पूरी गुमनामी की गारंटी दी जाती है, और काम के खोज और परिणामों के प्रकाशन या प्रसार में बच्चों या उनके मा-बाप की पहचान कहीं भी प्रकट नही होगी.

7.	Rights of Participants भाग लेने वाले के अधिकार	[ ]	The child has the right to withdraw from the study at any time s/he wants. All necessary information with respect to the tasks will be provided to the child's parent/guardian and a signed copy of the consent form will be provided. बच्चे को कभी भी अध्ययन से निकलने का अधिकार है. कार्यों के बारे में सभी ज़रूरी जानकारी माँ-बाप को दी जाएगी और सहमति प्रपत्र की हस्ताक्षर के साथ एक कॉपी उन्हे दी जाएगी.
8.	Alternatives to Participation in the Study अध्ययन में भाग लेने के विकल्प	[ ]	N/A
9.	Where the study will be conducted in a school/crèche, permission to conduct the study will also be obtained from the Principal/Teacher-in-charge. जहाँ इस अध्ययन के कार्य किसी स्कूल में कराए जाएँगे, वहाँ प्रिन्सिपल / टीचर-इन-चार्ज से भी इजाज़त ली जाएगी.	[ ]	…

PART II **Informed Guardian Consent Form in English and Hindi**

(भाग २) अँग्रेज़ी और हिन्दी में अवगत संरक्षक सहमति प्रपत्र

All the procedures, advantages, and risks involved with this study have been fully explained to me by the researcher. Further, the toys, pictures and other material to be used in the study have been shown to me. I, therefore, willingly, under no pressure from the investigator agree to allow my child participate in this study.

इस काम की सारी प्रक्रिया, फ़ायदे, जोखिम मुझे पूरी तरह से कामकर्ता ने समझा दी है. इसके अतिरिक्त, इसमें इस्तेमाल होने वाले सभी खिलौने, तस्वीरें और अन्य सामान मुझे दिखाया जा चुका है. इस आधार पर मैं अपनी इच्छा से, बिना किसी दबाव के अपने बच्चे को इस अध्ययन में भाग लेने की अनुमति देती / देता हूँ.

Name of the Participant:
भाग लेने वाले का नाम .....

Name of Parent/Guardian:
माँ / बाप / संरक्षक का नाम .....

Signature of Patient/Guardian:
माँ / बाप / संरक्षक के हस्ताक्षर .....

Relationship to Participant:
भाग लेने वाले से रिश्ता .....

Date:
दिनाक .....

Investigator's Statement:
कामकर्ता का कथन

I, the undersigned have explained to the parent/guardian in a language she/he understands the procedures to be followed in the study and risks and benefits.

मैं, जिसके निचे हस्ताक्षर हैं, भाग लेने वाले के माँ-बाप / संरक्षक को उनकी भाषा में इस अध्ययन की प्रक्रिया समझा चुकी हूँ और उन्होने इस अध्ययन की प्रक्रिया और फ़ायदों को समझ लिया है.

Signature of the Investigator:
कामकर्ता के हस्ताक्षर ..... Date:
दिनाक .....

Name of the Investigator:
कामकर्ता का नाम .....

Signature of the Witness:
गवाह के हस्ताक्षर ..... Date:
दिनाक .....

Name of the Witness:
गवाह का नाम .....

Appendix 3: Participant Profile sheet

Participant Profile

1. Participant's Name ……
2. Mother's Name ……
3. Father's Name ……
4. Mother's mother tongue ……

   Other languages (if any) ……
5. Father's mother tongue ……

   Other languages (if any) ……
6. Other languages spoken in the household
   (Grandparents/caregivers) ……
   (Other than those mentioned above)
7. Participant's Date of Birth ……
   (DD/MM/YYYY)
8. Languages known to the participant ……

Details of Investigation (To be filled in by the investigator)

9. Time & Duration of recording:
   i. Date: ……Time: ……Duration: ……Tasks: ……
   ii. Date: ……Time: ……Duration: ……Tasks: ……
10. Age of Participant during the investigation: Y;M …… M……
11. Place of recording ……
12. Data recorded by ……
13. Any other comments ……

    ……

Appendix 4: Target list of sentences for the Hindi version of Case Task

(In non- randomized order)

Practice sentences (Progressive aspect):

SOaccV: bathe/wash

(1) aadmii laRKe -ko nehlaa rahaa hE
man boy.OBL.SG -ACC bathe-CAUS PROG.M.SG AUX.PRS
'the man is bathing/washing the boy'

(2) aurat laRkii -ko nehlaa rahii hE
woman girl -ACC bathe-CAUS PROG.F.SG AUX.PR
'the woman is bathing/washing the girl'

SOaccOV: write

(3) aadmii aurat -ko ciThii likh rahaa hE
man woman -DAT letter write PROG.M.SG AUX.PRS
'the man is writing a letter to the woman'

(4) laRkaa laRkii -ko ciThii likh rahaa hE
boy girl -ACC letter write PROG.M.SG AUX.PRS
'the boy is writing a letter to the girl'

Test sentences (Progressive aspect):

SOaccV: push

(5) policevaalaa cuREl -ko dhakkaa de rahaa hE
policeman witch -ACC push give PROG.M.SG AUX.PRS
'the policeman is pushing the witch'

(6) raajkumaari fauji -ko dhakkaa de rahii hE
princess soldier -ACC push give PROG.F.SG AUX.PRS
'the princess is pushing the soldier'

SOaccV: pull

(7) raajaa aurat -ko khiiNc rahaa hE
king woman -ACC pull PROG.M.SG AUX.PRS
'the king is pulling the woman'

(8) cuREl policevaale -ko khiiNc rahii hE
witch policeman-OBL -ACC pull PROG.F.SG AUX.PRS
'the witch is pulling the policeman'

SOaccV: hug

(9) jaadugar parii -ko gale lagaa rahaa hE
magician fairy -ACC neck-OBL put PROG.M.SG AUX.PRS
'the magician is hugging the fairy'

(10) aurat raajaa -ko gale lagaa rahii hE
woman king -ACC neck-OBL put PROG.F.SG AUX.PRS
'the woman is hugging the king'

SOaccV: kiss

(11) rassoiyaa raanii -ko cuum rahaa hE
cook queen -ACC kiss PROG.M.SG AUX.PRS
'the cook is kissing the queen'

(12) parii jaadugar -ko cuum rahii hE
fairy magician -ACC kiss PROG.F.SG AUX.PRS
'the fairy is kissing the magician'

SOaccV: tickle

(13) doctor nurse -ko gudgudi kar rahaa hE
doctor nurse -ACC tickle do PROG.M.SG. AUX.PRS
'the doctor is tickling the nurse'

(14) raanii rassoiyye -ko gudgudi kar rahii hE
queen cook -ACC tickle do PROG.F.SG AUX.PRS
'the queen is tickling the cook'

SOaccOV: give

(15) rassoiyaa raajaa -ko cammac de rahaa hE
cook cook -DAT spoon give PROG.M.SG AUX.PRS
'the cook is giving the spoon to the king'

(16) rassoiyaa sipaahii -ko kaaNTaa de rahaa hE
cook soldier -ACC fork give PROG.M.SG AUX.PRS
'the cook is giving the fork to the soldier'

SOaccOV: show

(17) aadmii fireman -ko ghaRii dikhaa rahaa hE
man fireman -DAT watch show PROG.M.SG AUX.PRS
'the man is showing the watch to the fireman'

(18) aadmii policevaale -ko aNguuThii dikhaa rahaa hE
man policeman-OBL -DAT ring show PROG.M.SG AUX.PRS
'the man is showing the ring to the policeman'

SOaccOV: send

(19) joker shikaarii -ko kitaab bhej rahaa hE
clown hunter -DAT book send PROG.M.SG AUX.PRS
'the clown is sending the book to the hunter'

(20) joker jaadugar -ko ciTThii bhej rahaa hE
clown magician -DAT letter send PROG.M.SG AUX.PRS
'the clown is sending a letter to the magician'

SOaccOV: give

(21) raajaa rassoiyye -ko Topii de rahaa hE
king cook -DAT hat give PROG.M.SG AUX.PRS
'the king is giving the cap to the cook'

(22) raajaa doctor -ko ghaRii de rahaa hE
king doctor -DAT watch give PROG.M.SG AUX.PRS
'the king is giving the watch to the doctor'

SOaccOV: show

(23) khilaaRii duusre khilaaRii -ko cup dikhaa rahaa hE
player second player -DAT cup show PROG.M.SG AUX.PRS

AUX.PRS

'the player is showing the cup to the other player'

(24) khilaRii referee -ko gend dikhaa rahaa hE

player referee -DAT ball show PROG.M.SG AUX.PRS

'the player is showing the ball to the referee'

SOaccV: thank

(25) sipaahii raanii -ko dhanyavaad keh rahaa hE

soldier queen -ACC thanks say PROG.M.SG AUX.PRS

'the soldier is thanking/saying thank you to the queen'

(26) raajkumaarii raajaa -ko dhanyavaad keh rahii hE

princess king -ACC thanks say PROG.F.SG AUX.PRS

'the princess is thanking/saying thank you to the queen'

SOinstV: shake-hand

(27) raajaa raajkumaarii -se haath milaa rahaa hE

king princess -INST hand meet PROG.M.SG AUX.PRS

'the king is shaking hands with the princess'

(28) parii joker -se haath milaa rahii hE

fairy clown -INST hand meet PROG.F.SG AUX.PRS

'the fairy is shaking hands with the clown'

SOgenV: wave

(29) joker parii -kii taraf haath hilaa rahaa hE

clown fairy -*kaa*.F direction hand move PROG.M.SG AUX.PRS

'the clown is waving (his hand) to the fairy'

(30) nurse policevaale -kii taraf haath hilaa rahii hE

nurse policeman-OBL -*kaa*.F direction hand move PROG.F.SG AUX.PRS

'the nurse is waving (her hand) to the policeman'

SOgenV: help

(31) policevaalaa nurse -kii madad kar rahaa hE

policeman nurse -*kaa*.F help do PROG.M.SG AUX.PRS

'the policeman is helping the nurse'

(32) cuREl rassoiyye -kii madad kar rahii hE
witch cook -*kaa*.F help do PROG.F.SG AUX.PRS
'the witch is helping the cook'

SOgenV: follow

(33) rassoiyyaa laRkii -kaa piichaa kar rahaa hE
cook girl -*kaa*.M.SG follow do PROG.M.SG AUX.PRS
'the cook is following the girl'

(34) raanii sipaahii -kaa piichaa kar rahii hE
queen soldier -*kaa*.M.SG follow do PROG.F.SG AUX.PRS
'the queen is following the soldier'

Practice sentences (Perfective aspect):

SOaccV: bathe/wash

(35) aadmii -ne laRke -ko nehlaayaa
man -ERG boy-OBL -ACC bathe.CAUS.PERF.M.SG
'the man bathed/washed the boy'

(36) aurat -ne laRkii -ko nehlaayaa
woman -ERG girl -ACC bathe.CAUS.PERF.M.SG
'the woman bathed/washed the girl'

SOaccOV: write

(37) aadmii -ne aurat -ko ciTThii likhii
man -ERG woman -DAT letter write-PERF.F.SG
'the man wrote a letter to the woman'

(38) laRke -ne laRkii -ko ciTThii likhii
boy -ERG girl -DAT letter write-PERF.F.SG
'the boy wrote a letter to the girl'

Test sentences (Perfective aspect):

SOaccV: push

(39) policevaale -ne cuREl -ko dhakkaa diyaa
policeman.OBL-ERG witch -ACC push give-PERF.M.SG
'the policeman pushed the witch'

(40) raajkumaari -ne sipaahii -ko dhakkaa diyaa
princess -ERG soldier -ACC push give-PERF.M.SG
'the princess pushed the soldier'

SOaccV: pull

(41) raajaa -ne aurat -ko khiiNcaa
king -ERG woman -ACC pull-PERF.M.SG
'the king pulled the woman'

(42) cuREl -ne policevaale -ko khiiNca
witch -ERG policeman -ACC pull-PERF.M.SG
'the witch pulled the policeman'

SOaccV: hug

(43) jaadugar -ne parii -ko gale lagaayaa
magician -ERG fairy -ACC neck-OBL put-PERF.M.SG
'the magician hugged the fairy'

(44) aurat -ne raajaa -ko gale lagaayaa
woman -ERG king -ACC neck-OBL. put-PERF.M.SG
'the woman hugged the king'

SOaccV: kiss

(45) rassoiyye -ne raanii -ko cuumaa
cook-OBL -ERG queen -ACC kiss-PERF.M.SG
'the cook kissed the queen'

(46) parii -ne jaadugar -ko cuumaa
fairy -ERG magician -ACC kiss-PERF.M.SG
'the fairy kissed the magician'

SOaccV: tickle

(47) doctor -ne nurse -ko gudgudii kii
doctor -ERG nurse -ACC tickle do-PERF.F.SG
'the doctor tickled the nurse'

(48) raanii -ne rassoiyye -ko gudgudii kii
queen -ERG cook-OBL -ACC tickle do-PERF.F.SG
'the queen tickled the cook'

SOaccOV: give

(49) rassoiyye -ne raajaa -ko cammac diyaa
cook-OBL -ERG king -DAT spoon give-PERF.M.SG
'the cook gave a spoon to the king'

(50) rassoiyye -ne sipaahii -ko kaaNTaa diyaa
cook-OBL -ERG soldier -DAT fork give-PERF.M.SG
'the cook gave a fork to the soldier'

SOaccOV: show

(51) aadmii -ne fireman -ko ghaRii dikhaaii
man -ERG fireman -DAT watch show-PERF.F.SG
'the man showed a watch to the fireman'

(52) aadmii -ne policevaale -ko aNguuThii dikhaaii
man -ERG policeman-OBL-DAT ring show-PERF.F.SG
'the man showed a ring to the policeman'

SOaccOV: send

(53) joker -ne shikaarii -ko kitaab bhejii
clown -ERG hunter -DAT book send-PERF.F.SG
'the clown sent a book to the hunter'

(54) joker -ne jaadugar -ko ciTThii bhejii
clown -ERG magician -DAT letter send-PERF.F.SG
'the clown sent a letter to the magician'

SOaccOV: give

(55) raajaa -ne rassoiyye -ko Topii dii
king -ERG cook-OBL -DAT hat give-PERF.F.SG
'the king gave a hat to the cook'

(56) raajaa -ne doctor -ko ghaRii dii
king -ERG doctor -DAT watch give-PERF.F.SG
'the king gave a watch to the doctor'

SOaccOV: show

(57) khilaaRii -ne duusre khilaaRii -ko cup dikhaayaa
player -ERG second-OBL player -DAT cup show-PERF.M.SG
'the player showed the cup to the other player'

(58) khilaaRii -ne referee -ko gend dikhaaii
player -ERG referee -DAT ball show-PERF.F.SG
'the player showed the ball to the referee'

SOaccV: thank

(59) sipaahii -ne raanii -ko dhanyavaad kahaa
soldier -ERG queen -ACC thank say-PERF.M.SG
'the soldier thanked the queen'

(60) raajkumaarii -ne raajaa -ko dhanyavaad kahaa
princess -ERG king -ACC thank say-PERF.M.SG
'the princess thanked the king'

SOinstV: shake-hand

(61) raajaa -ne raajkumaarii -se haath milaayaa
king -ERG princess -INST hand meet-PERF.M.SG
'the king shook hands with the princess'

(62) parii -ne joker -se haath milaayaa
fairy -ERG clown -INST hand meet-PERF.M.SG
'the fairy shook hands with the clown'

SOgenV: wave

(63) joker -ne parii -kii taraf haath hilaayaa
clown -ERG fairy -*kaa*.F.direction hand move-PERF.M.SG
'the clown waved (his hand) to the fairy'

(64) nurse -ne policevaale -kii taraf haath hilaayaa
nurse -ERG policeman -*kaa*.F.SG direction hand move-PERF.M.SG
'the nurse waved (her hand) to the policeman'

SOgenV: help

(65) policevaale -ne nurse -kii madad kii
policeman-OBL -ERG nurse -*kaa*.F.SG help do-PERF.F.SG
'the policeman helped the nurse'

(66) cuREl -ne rassoiyye -kii madad kii
witch -ERG cook-OBL -*kaa*.F. help do-PERF.F.SG
'the witch helped the cook'

SOgenV: follow

(67) rassoiyye -ne laRkii -kaa piichaa kiyaa
cook.OBL -ERG girl -*kaa*.M.SG follow do-PERF.M.SG
'the cook followed the nurse'

(68) raanii -ne sipaahii -kaa piichaa kiyaa
queen -ERG soldier --*kaa*.M.SG follow do-PERF.M.SG
'the queen followed the soldier'

Appendix 5: Target list of sentences for the Hindi version of the possessives part of the Case Task

(In non-randomized order)

S. no.	Item	Features of Item	Possessor	Features of Possessor	Utterance 1
1a	Mask	M.SG.	Girl	F.SG.	*ye laRkii kaa mask hE* 'This is the girl's mask'
1b	Mask	M.SG.	Boy	M.SG.	*ye laRke kaa mask hE* 'This is the boy's mask'
2a	Bag	M.SG.	Girl	F.SG.	*ye laRkii kaa bag hE* 'This is the girl's bag'
2b	Bag	M.SG.	Boy	M.SG.	*ye laRke kaa bag hE* 'This is the boy's bag'
3a	Hat	F.SG.	Girl	F.SG.	*ye laRkii kii Topii hE* 'This is the girl's hat'
3b	Hat	F.SG.	Boy	M.SG.	*ye laRke kii Topii hE* 'This is the boy's hat'
4a	Watch	F.SG.	Girl	F.SG.	*ye laRkii kii ghaRii hE* 'This is the girl's watch'
4b	Watch	F.SG.	Boy	M.SG.	*ye laRke kii ghaRii hE* 'This is the boy's watch'
5a	Glasses	M.SG.	Girl	F.SG.	*ye laRkii kaa cashmaa hE* 'This is the girl's glasses'
5b	Glasses	M.SG.	Boy	M.SG.	*ye laRke kaa cashmaa hE* 'This is the boy's glasses'

6a	T-Shirt	F.SG.	Girl	F.SG.	*ye laRkii kii T-shirt hE* 'This is the girl's T-shirt'
6b	T-Shirt	F.SG.	Boy	M.SG.	*ye laRke kii T-shirt hE* 'This is the boy's T-shirt'

Appendix 6: Tentative list of target verbs for first part of Agreement Task

S. no.	**Verb in Hindi (in INFI form)**	**Verb in English**	**Verb Type**	**Story name**
1	*becnaa*	Sell	V_{dt}	Balloon Seller
2	*bharnaa*	Fill	V_{dt}	Balloon Seller
3	*caahnaa*	Want	V_t	Balloon Seller
4	*denaa*	Give	V_{dt}	Balloon Seller
5	*khariidnaa*	Buy	V_{dt}	Balloon Seller
6	*lenaa*	Take	V_{dt}	Balloon Seller
7	*baat karnaa*	Talk	V_t	House Story
8	*chupnaa*	Hide	V_t	House Story
9	*maarnaa*	Hit	V_{dt}	House Story
10	*rehnaa*	Stay	V_t	House Story
11	*Daalnaa*	Put	V_{dt}	House Story
12	*dekhnaa*	See	V_t	House Story
13	*khelnaa*	Play	V_i	House Story
14	*pheknaa*	Throw	V_{dt}	House Story
15	*sorry bolnaa*	Apologize	V_t	House Story
16	*TuuTnaa*	Break	V_i	House Story
17	*chiiNknaa*	Sneeze	V_i	Winter Season
18	*pehennaa*	Wear	V_t	Winter Season
19	*ThanD lagnaa*	feel cold	V_i	Winter Season
20	*garmii lagnaa*	feel hot	V_i	Summer Season
21	*piinaa*	Drink	V_t	Summer Season
22	*pyaas lagnaa*	be thirsty	V_i	Summer Season
23	*aanaa*	Come	V_i	Apple Tree
24	*bhuukh lagnaa*	be hungry	V_i	Apple Tree
25	*Dar lagnaa*	Scare	V_t	Apple Tree
26	*daraanaa*	scare (CAUS)	V_t	Apple Tree
27	*khaanaa*	Eat	V_t	Apple Tree
28	*caRhnaa*	Climb	V_t	The Mouse
29	*giraanaa*	fall (CAUS)	V_t	The Mouse
30	*girnaa*	Fall	V_i	The Mouse

31	*toRnaa*	break	V_t	The Mouse
32	*bujhaanaa*	blow out	V_t	The Light Switch
33	*calaanaa*	switch on	V_t	The Light Switch
34	*calnaa*	switch on	V_i	The Light Switch
35	*jaanaa*	go	V_i	The Light Switch
36	*kaaTnaa*	cut	V_t	The Woodcutter
37	*banaanaa*	make	V_t	The Carpenter
38	*baarish honaa*	rain	V_i	Rain
39	*Bhiignaa*	drench	V_i	Rain
40	*Kholnaa*	open	V_t	Rain

Appendix 7: List of target complex nominal phrases for second part of Agreement task

S. no.	Item	Features of Item	Possessor	Features of Possessor	Nominal modifier, if any	Features of Nominal modifier	CNP	Type of modifier
1a	bottle	F.SG.	boy	M.SG.	Fish	F.SG.	*machlii -vaalii botal* 'bottle with fish'	*-vaalaa*
1b	bottle	F.SG.	girl	F.SG.	Frog	M.SG.	*mENDak –vaalii botal* 'bottle with frog'	*-vaalaa*
2a	balloon	M.SG.	boy	M.SG.	Stars	M.PL.	*sitaaroN -vaalaa gubbaaraa* 'balloon with stars'	*-vaalaa*
2b	balloon	M.SG.	girl	F.SG.	flowers	M.PL.	*phuuloN vaalaa gubbaaraa* 'balloon with flowers'	*-vaalaa*
3a	toy train	F.SG.	boy	M.SG.	-	-	*choTii train* 'small train'	Adjective
3b	toy train	F.SG.	girl	F.SG.	-	-	*lambii train* 'long train'	Adjective
4a	toy aeroplane	M.SG.	boy	M.SG.	-	-	*baRaa aeroplane* 'big aeroplane'	Adjective
4b	toy aeroplane	M.SG.	girl	F.SG.	-	-	*choTaa aeroplane* 'small aeroplane'	Adjective
5a	book	F.SG.	boy	M.SG.	flowers	M.PL.	*phuuloN vaalii kitaab* 'book with flowers'	*-vaalaa*
5b	book	F.SG.	girl	F.SG.	butterfly	F.SG.	*titlii vaalii kitaab* 'book with butterfly'	*-vaalaa*
6a	flowerpot	M.SG.	boy	M.SG.	flowers	M.PL.	*phuuloN vaalaa gamlaa* 'pot with flowers'	*-vaalaa*
6b	flowerpot	M.SG.	girl	F.SG.	Leaves	M.PL.	*pattoN vaalaa gamlaa* 'pot with leaves'	*-vaalaa*

7a	chair	F.SG.	boy	M.SG.	-	-	*nayii kursii* 'new chair'	Adjective
7b	chair	F.SG.	girl	F.SG.	-	-	*TuuTii huii kursii* 'broken chair'	Participial Verb
8a	bag	M.SG.	boy	M.SG.	-	-	*phaTaa huaa bag* 'torn bag'	Participial Verb
8b	bag	M.SG.	girl	F.SG.	-	-	*nayaa bag* 'new bag'	Adjective
9a	bicycle	F.SG.	boy	M.SG.	flowers	M.PL.	*phuuloN vaalii cycle* 'bicycle with flower'	*-vaalaa*
9b	bicycle	F.SG.	girl	F.SG.	flag	M.SG.	*jhaNDe vaalii cycle* 'bicycle with flag'	*-vaalaa*
10a	water pot	M.SG.	boy	M.SG.	-	-	*bharaa huaa maTkaa* 'filled pot'	Participial Verb
10b	water pot	M.SG.	girl	F.SG.	-	-	*khaalii maTkaa* 'empty pot'	Adjective
11a	toy car	F.SG.	boy	M.SG.	-	-	*gaNdii gaRii* 'dirty car'	Adjective
11b	toy car	F.SG.	girl	F.SG.	-	-	*saaf gaaRii* 'clean car'	Adjective
12a	lock	M.SG.	boy	M.SG.	-	-	*baNd taalaa* 'locked lock'	Adjective
12b	lock	M.SG.	girl	F.SG.	-	-	*khulaa huaa taalaa* 'open lock'	Participial Verb
13a	plate	F.SG.	boy	M.SG.	-	-	*TuuTii huii plate* 'broken plate'	Participial Verb
13b	plate	F.SG.	girl	F.SG.	-	-	*juRii huii plate* 'unbroken plate'	Participial Verb

Appendix 8.1: Extract 1 from transcripts of data collected

(Example of Oblique omission)

Task: Agreement Task Child: SS1:5;6

CH	is ke paas gandii car
CH_GLOSS	he.OBL.SG –*kaa*.OBL near dirty.F.SG car.F.SG
CH_TRANSLATION	the dirty car with him
CH_COMMENT	the boy's car
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH		is ke paas
CH_GLOSS		he.OBL.SG –*kaa*.OBL near
CH_TRANSLATION		with him
CH_COMMENT		
RES	kis ke paas	
RES_GLOSS	who.OBL.SG –*kaa*.OBL near	
RES_TRANSLATION	with who?	
RES_COMMENT		
PICTURE	toy cars	

CH	is ke paas
CH_GLOSS	he.OBL.SG –*kaa*.OBL near
CH_TRANSLATION	with him
CH_COMMENT	

RES	is ke paas matlab
RES_GLOSS	he.OBL.SG –*kaa*.OBL near meaning?
RES_TRANSLATION	'with him' meaning?
RES_COMMENT	
PICTURE	

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	ye kaun
RES_GLOSS	this who
RES_TRANSLATION	who is this?
RES_COMMENT	
PICTURE	

CH	laRkaa ke paas ek... gandii vaalii car hE
CH_GLOSS	boy –*kaa*.OBL near one… dirty.F.SG *vaalaa*.F.SG car.F.SG be.PRS.3P
CH_TRANSLATION	there is a dirty car with the boy
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	laRkii -ke paas new vaalii car hE

CH_GLOSS	girl –*kaa*.OBL near new *vaalaa*.F.SG car.F.S be.PRS.3P
CH_TRANSLATION	There is a new car with the girl
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	is ke paas	
CH_GLOSS	she.OBL.SG –*kaa*.OBL near	
CH_TRANSLATION	with her	
CH_COMMENT		
RES		is ke
RES_GLOSS		she.OBL.SG –*kaa*.OBL
RES_TRANSLATION		her
RES_COMMENT		
PICTURE	locks	

CH	is laRkii -ke paas khulii huii key hE
CH_GLOSS	this.OBL.SG girl –*kaa*.OBL near open.F.SG-PART.F.SG key be.PRS.3P
CH_TRANSLATION	this girl has the open key
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	is laRkaa ke paas juRii vaalii key hE
CH_GLOSS	this.OBL.SG boy –*kaa*.OBL near mended.F.SG *vaalaa*.F.SG key be.PRS.3P
CH_TRANSLATION	this girl has the mended key
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH		taalaa
CH_GLOSS		lock
CH_TRANSLATION		lock
CH_COMMENT		
RES	ye to taalaa hE	
RES_GLOSS	this EMPH lock be.PRS.3P	
RES_TRANSLATION	this is a lock	
RES_COMMENT		
PICTURE		

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	to phir se bataao
RES_GLOSS	EMPH again tell.IMP
RES_TRANSLATION	so tell again
RES_COMMENT	

PICTURE

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	laRkii -ke paas
RES_GLOSS	girl –*kaa*.OBL near
RES_TRANSLATION	with the girl
RES_COMMENT	
PICTURE	

CH	laRkii -ke paas juRaa huaa
CH_GLOSS	girl –*kaa*.OBL near mended.M.SG-PART.M.SG
CH_TRANSLATION	the mended (lock) with the girl
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	laRkii -ke paas TuuTaa huaa taalaa hE
CH_GLOSS	girl –*kaa*.OBL near broken.M.SG-PART.M.SG. lock be.PRS.3P
CH_TRANSLATION	the girl has the broken lock
CH_COMMENT	
RES	

RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	laRkaa -ke paas
CH_GLOSS	boy –*kaa*.OBL near
CH_TRANSLATION	with the boy
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	fixaa huaa tower hE	
CH_GLOSS	fix.M.SG-PART.M.SG tower be.PRS.3P	
CH_TRANSLATION	(the boy) has the fixad tower	
CH_COMMENT		
RES		achaa
RES_GLOSS		okay
RES_TRANSLATION		okay
RES_COMMENT		
PICTURE		

Appendix 8.2: Extract 2 from transcripts of data collected

(Example of Oblique overextension)

Task: Case Task Child: TB:4;9

CH_GLOSS	
CH_TRANSLATION	
CH_COMMENTS	
RES	phir phir yahaaN parii
RES_GLOSS	then then here fairy.F.SG
RES_TRANSLATION	then the fairy here
RES_COMMENTS	
CH_PICT	

CH	phir ek parii -ne us -se hello karaa
CH_GLOSS	then one fairy -ERG he.OBL -SOC hello do.PERF
CH_TRANSLATION	then a fairy said hello to him
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	<SHAKE HANDS-PERF.2>

CH	to ek raajkumaarii raajkumaar
CH_GLOSS	so one princess prince
CH_TRANSLATION	so a princess and a prince
CH_COMMENTS	
RES	

RES_GLOSS

RES_TRANSLATION

RES_COMMENTS

CH_PICT

CH

CH_GLOSS

CH_TRANSLATION

CH_COMMENTS

RES	parii hE yahaaN pe... aur yahaaN jaadugar hE
RES_GLOSS	fairy be.PRES.3P here LOC…and here magician be.PRES.3P
be.PRES.3P	
RES_TRANSLATION	here is a fairy and here is a magician
RES_COMMENTS	
CH_PICT	

CH	ek pare... paraa yahaaN
CH_GLOSS	one fairy.OBL.M.SG.… fairy.M.SG. here
CH_TRANSLATION	there (is) a fairy… (male) fairy here
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	

CH jo ye Ese jis -ne Ese

CH_GLOSS	REL this like-this REL.OBL.SG. –ERG like-this
CH_TRANSLATION	who like this
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	

CH	ye pehenii hotii hE naa	ye
CH_GLOSS	this wear.PERF.F.SG be.IMPERF.F.SG AUX.PRS.3P NEG.	this
CH_TRANSLATION	(the one who) wears this	
CH_COMMENTS		
RES	haaN	
RES_GLOSS	yes	
RES_TRANSLATION	yes	
RES_COMMENTS		
CH_PICT		

CH	vo paraa hotaa hE
CH_GLOSS	that fairy.M.SG be.IMPERF.M.SG AUX.PRS.3P
CH_TRANSLATION	that (person) is a (male) fairy
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENTS	
RES	nahii vo to jaadugar hE
RES_GLOSS	NEG. he EMPH magician be.PRS.3P
RES_TRANSLATION	no that is a magician
RES_COMMENTS	
CH_PICT	

CH	paraa hotaa hE
CH_GLOSS	fairy.M.SG be.IMPERF.M.SG AUX.PRS.3P
CH_TRANSLATION	(that) is a (male) fairy
CH_COMMENTS	
RES	nahii
RES_GLOSS	NEG
RES_TRANSLATION	no
RES_COMMENTS	
CH_PICT	

CH	paraa hotaa hE
CH_GLOSS	fairy.M.SG be.IMPERF.M.SG AUX.PRS.3P
CH_TRANSLATION	(that person) is a (male) fairy
CH_COMMENTS	
RES	jaadugar hE
RES_GLOSS	magician be.PRS.3P
RES_TRANSLATION	(he) is a magician

RES_COMMENTS

CH_PICT

CH	paraa hotaa hE	
CH_GLOSS	fairy.M.SG be.IMPERF.M.SG AUX.PRS.3P	
CH_TRANSLATION	(that person) is a (male) fairy	
CH_COMMENTS		
RES		achaa Thiik hE
RES_GLOSS		okay correct be.PRS.3P
RES_TRANSLATION		okay, fine
RES_COMMENTS		
CH_PICT		

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENTS	
RES	yahaaN kyaa huaa yahaaN pe
RES_GLOSS	here what happen.PERF.M.SG here LOC
RES_TRANSLATION	what happened here?
RES_COMMENTS	
CH_PICT	

CH	ye jo hE naa is -ke
CH_GLOSS	this REL be.PRS.3P NEG. this.OBL *–kaa*.PL
CH_TRANSLATION	this person's
CH_COMMENTS	
RES	

RES_GLOSS

RES_TRANSLATION

RES_COMMENTS

CH_PICT

CH	ye lambe lambe is ke paNkh hE
CH_GLOSS	this long.PL long.PL he.OBL –*kaa*.PL feather be.PRS.3P
CH_TRANSLATION	he has long-long feathers

CH_COMMENTS

RES

RES_GLOSS

RES_TRANSLATION

RES_COMMENTS

CH_PICT

CH

CH_GLOSS

CH_TRANSLATION

CH_COMMENTS

RES	achaa
RES_GLOSS	okay
RES_TRANSLATION	okay

RES_COMMENTS

CH_PICT

CH

CH_GLOSS

CH_TRANSLATION

CH_COMMENTS	
RES	kyaa huaa yahaaN pe phir
RES_GLOSS	what happen.PERF.M.SG here LOC then
RES_TRANSLATION	so what happened here then?
RES_COMMENTS	
CH_PICT	

CH	to phir... ek…
CH_GLOSS	so then one
CH_TRANSLATION	so, then…one…
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	

CH	ek parii -se ek paraa galaa mila rahaaa ... gale mil rahaa hE
CH_GLOSS	one fairy.F.SG. -SOC one fairy.M.SG neck.M.SG meet.CAUS PROG.M.SG… neck.PL meet PROG.M.SG AUX.PRS.3P
CH_TRANSLATION	a (male) fairy is hugging a fairy
CH_COMMENTS	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENTS	
CH_PICT	

Appendix 8.3: Extract 3 from transcripts of data collected

(Example of CBAC violation)

Task: Case Task Child: AG1:3;7

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	ye kaun hE
RES_GLOSS	this who AUX.PRES.
RES_TRANSLATION	who is this?
RES_COMMENT	pointing towards the witch who is pulling the policeman
CH_PICT	

CH	is -ko ye uThaa rahaa hE
CH_GLOSS	this.OBL.SG -ACC. this lift PROG.M.SG AUX.PRES.3P
CH_TRANSLATION	he is lifting this person
CH_COMMENT	referring to the picture of the witch pulling the policeman
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	

RES	ye to laRkii hE
RES_GLOSS	this EMPH. girl AUX.PRES.3P
RES_TRANSLATION	this is a girl
RES_COMMENT	referring to the witch
CH_PICT	

CH	laRkii us -ko uThaa rahaa hE
CH_GLOSS	girl that.OBL.SG -ACC. lift PROG.M.SG. AUX.PRES.3P
CH_TRANSLATION	the girl is lifting this person
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	ye to ek laRkii hE... aur ye ek laRkaa hE
RES_GLOSS	this EMPH. one girl AUX.PRES.3P, and this one boy AUX.PRES.3P
RES_TRANSLATION	this is a girl, and this is a boy
RES_COMMENT	referring to the witch and the policeman as a girl and a boy respectively
CH_PICT	

CH	haaN... laRkii laRke -ko uThaa rahaa hE
CH_GLOSS	yes, girl boy.OBL -ACC lift PROG.M.SG. AUX.PRES.3P
CH_TRANSLATION	yes, the girl is lifting the boy
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	

CH	laRkii laRkii...
CH_GLOSS	girl girl
CH_TRANSLATION	
CH_COMMENT	
RES	laRkii...
RES_GLOSS	girl
RES_TRANSLATION	the girl...
RES_COMMENT	
CH_PICT	

CH	laRkii laRke -ko uThaa rahaa hE
CH_GLOSS	girl boy.OBL -ACC lift PROG.M.SG. AUX.PRES.3P
CH_TRANSLATION	yes, the girl is lifting the boy
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	<PULL-PROG.2>

Appendix 8.4: Extract 4 from transcripts of data collected

(Example of incorrect agreement on *–kaa* in possessive construction: agreement with modifier instead of head noun)

Task: Case Task Child: RG1;3;7

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	ye...
RES_GLOSS	this..
RES_TRANSLATION	this
RES_COMMENT	
CH_PICT	

CH	ye laRkii -kii bag aur ye boy -kaa bag
CH_GLOSS	this girl -*kaa*.F.SG bag and this boy -*kaa*.M.SG. bag
CH_TRANSLATION	this (is) the girl's bag and this (is) the boy's bag
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	BAG

CH	
CH_GLOSS	
CH_TRANSLATION	

CH_COMMENT	
RES	hmm
RES_GLOSS	
RES_TRANSLATION	hmm
RES_COMMENT	
CH_PICT	

CH	ye laRkii -kii cashmaa, boy -kaa cashmaa
CH_GLOSS	this girl -*kaa*.F.SG. glasses , boy -*kaa*.M.SG. glasses
CH_TRANSLATION	this (is) the girl's spectacles, the boy's spectacles
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	GLASSES

CH	pataa nahii	mask boy...
CH_GLOSS	know NEG.	mask boy...
CH_TRANSLATION	don't know	
CH_COMMENT		
RES	mask	
RES_GLOSS	mask	
RES_TRANSLATION	mask	
RES_COMMENT		
CH_PICT		

CH	girl -kii mask... boy -kaa mask
CH_GLOSS	girl -*kaa*.F.SG mask..... boy -*kaa*.M.SG mask

CH_TRANSLATION	girl's mask, boy's mask
CH_COMMENT	
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
CH_PICT	MASK

Appendix 8.5: Extract 5 from transcripts of data collected

(Example of incorrect agreement on –*vaalaa*: agreement with modifier instead of head noun)

Task: Agreement Task Child: AG1:4;5

CH	
CH_GLOSS	
CH_TRANSLATION	
CH_COMMENT	
RES	ab kyaa milaa
RES_GLOSS	now what get.PERF.M.SG
RES_TRANSLATION	now what did (they) get?
RES_COMMENT	
PICTURE	balloons

CH	balloons mil gae
CH_GLOSS	balloons get go.PERF.M.PL
CH_TRANSLATION	(someone) got balloons
CH_COMMENT	the boy and the girl have a balloon each with stars and flowers printed on them respectively
RES	
RES_GLOSS	
RES_TRANSLATION	
RES_COMMENT	
PICTURE	

CH	laRkii -ko flower vaale aur laRke -ko star vaale
CH_GLOSS	girl -ACC flower *vaalaa*.PL and boy.OBL -ACC star *vaalaa*.PL

CH_TRANSLATION	the girl (got) the balloon with flowers and the boy the balloon with stars	
CH_COMMENT		
RES		
RES_GLOSS		
RES_TRANSLATION		
RES_COMMENT		
PICTURE		

CH		star vaale
CH_GLOSS		star *vaalaa*.PL
CH_TRANSLATION		the one (balloon) with stars
CH_COMMENT		
RES	laRke -ko	
RES_GLOSS	boy.OBL -ACC	
RES_TRANSLATION	the boy	
RES_COMMENT		
PICTURE		

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