Impact of L1 Head-Parameter Setting on Learning of L2: A Longitudinal Study of Simultaneous Learning of Urdu and English as Second Languages by Hindko L1 Speaker

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Abstract

Universal Grammar posits that all world languages have common universal principles and language-specific rules or parameters. Languages differ from one another only in parametric setting (Chomsky, 1957). Structure dependency, syntactic projection and head parameter are some of the principles common to every language. However, within these principles, each language has its own specific rules or parameters such as head first-or-last parameter and null-subject parameter. Chomsky posits if first language (L1) and the second language (L2) have the same position of the head in phrases, learning of the second language will be quick and easy because L1 language acquisition device (LAD) facilitates L2 LAD in the learning process. The current study is based on cognitive theory of language learning propounded by Chomsky (1957, 1965, 1975, 1976). The study reports how learning of L2 (Urdu) was facilitated by L1 (Hindko) because of the same head parameter setting. Noor-ul-Ain, a 3-year old kid learnt grammatically well-formed verb and prepositional phrases of Urdu (L2) as compared to English (L2) within the same time span of target language input. The only plausible reason behind such a quick and easy acquisition of Urdu (L2) phrases was the sameness of head-parameter setting of Urdu and Hindko in which the learner did not have to shuffle her LAD while in the case of English (L2) the child's learning was poor because of different head-parameter setting. In the case of English the learner had to shuffle her LAD in order to have access to the principles of Universal Grammar in her mind. The study has many classroom implications as well. Urdu Language Teaching (ULT) to Hindko speakers will be comparatively easy as comparedto English Language Teaching (ELT) because Hindko and Urdu are head-last languages.

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1. Introduction

Child language acquisition is an interesting phenomenon. Children all over the world follow, more or less, the same pattern of L1 acquisition (Chomsky, 1957). These are called language acquisition stages. Some linguists are of the view that L2 learning also has great parallels with L1 acquisition. Present longitudinal study was conducted on a Hindko L1 speaker who was given the input of Urdu and English after she had passed through almost all the stages of acquiring her mother tongue. The subject of the study, a three-year old baby girl, is daughter to one of the researchers. While the baby was growing up and acquiring her mother-tongue Hindko, the parents started giving the child the input of Urdu (L2, which is also a national language of Pakistan). This was just out of curiosity to see if the child could pick up Urdu phrases. A week's input yielded interesting results. Father of the baby girl, (himself one of the researchers) shared the results with fellow researchers. After a thorough discussion on Chomskyan syntactic theories, it was decided that the baby girl should be given simultaneous input of Urdu and English to see which second language was easy to learn for the child. The general hypothesis was that the child would learn Urdu earlier than English because of similarity of its grammar with child's mother tongue. The research team decided that one of the researchers would do participatory observation along with his family members for a period of one year. As spoken data were expected to be in large quantity, so it was decided that the study be delimited to analysis of only two phrases, that is, prepositional and verb phrases.

1.1 Stages in Child Language Acquisition

1.1.1 Pre-speech(3-4 months)

Pre-speech stage starts when children are hardly 3-4 month old. At this stage they learn to recognize the distinctive sounds, the phonemes of the language they hear from birth long before they are able to pronounce them. Infants can distinguish between /p/ and /b/ at three or four months but children do not learn how to use these sounds until much later--around the second year or later.

1.1.2 Babbling stage (6-8 months)

This stage begins at several months of age. Many native speech sounds may be absent; some are naturally harder to pronounce. At this stage very few consonant clusters in syllables are common. This stage is approximately from six months to eight months of child development.

1.1.3 One-word or Holophrastic stage (9-18 months)

Infants may utter their first word as early as nine months: usually *mama* and *dada*. At this stage, single open-class words or word stems emerge. The participant of the present study had started uttering Hindko words such *panhreen* (water), *kursee* (chair) and *manji* (bed) when she was she was around one-year old.

1.1.4 Multi-word or Telegraphic stage (24-30 months)

By two and a half years most children speak in sentences of several words but their grammar is far from complete. In the early multi-word stage, "telegraphic" sentence structures of *lexical* rather than *functional* or *grammatical* morphemes are uttered. In later multi-word stage (30 +) grammaticalor *functional* structures emerge. This stage rapidly progresses into what has been termed as final stage of language acquisition, that is, all-hell-breaks-loose stage.

1.2 Child Language Acquisition Theories

Linguists have divergent views on child language acquisition process. Some say that child acquires L1 from the environment and the child produces only what he or she hears from the surroundings. Another view is that although input does have a role to play but it just triggers the innate faculty of language acquisition with which all human beings are endowed by birth.

1.2.1 Jean Piaget's Cognitive theory

This theory views language acquisition within the context of the child's broader intellectual development. A child first becomes aware of a concept, such as relative size, and only afterward do they acquire the words and patterns to convey that concept. Simple ideas are expressed earlier than more complex ones even if they are grammatically complex.

1.2.2 Behaviorism or Positive Reinforcement Theory

Children learn by imitating and repeating what they hear. Positive reinforcement and corrections also play a major role in language acquisition. Children do imitate adults. Repetition of new words and phrases is a basic feature of children's speech. This is the behaviorist view popular in the 40's and 50's, but challenged, since imitation alone cannot possibly account for all language acquisition.

1.2.3 Mentalism or Innateness' Theory

This theory believes in the innateness of certain linguistic features. This theory is connected with the writings of Noam Chomsky, although the theory has been around for hundreds of years. Children are born with an innate capacity for learning human language. Humans are destined to speak. Children discover the grammar of their language based on their own inborn grammar (Chomsky, 1957). Certain aspects of language structure seem to be preordained by the cognitive structure of the human mind. This accounts for certain very basic universal features of language structure: every language has nouns/verbs, consonants and vowels. It is assumed that children are pre-programmed, hard-wired, to acquire such things.Chomsky maintains that children couldn't simply figure out language structure by repetition and analogy because the language they hear is highly irregular.

1.3 Chomsky's Universal Grammar

Chomsky argues that human brains have a language acquisition device (LAD), an innate mechanism or process that allows children to develop language skills. According to this view, all children are born with a universal grammar (UG), which makes them receptive to the common features of all languages. Because of this hard-wired background in grammar, children easily pick up a language when they are exposed to its particular grammar.

1.3.1 Language Acquisition Device (LAD)

Producing a sentence in a language may be compared to the process of getting results out of a computer. The computer is programmed and arranges items according to the instructions given to it beforehand. In other words, the computer is equipped to process information in a certain way. Human brain too is equipped with a device to process the language; this is called the language acquisition device or LAD. This device has the capacity to arrange the lexical units of any human language according to

some general universal principles. Then, there would be variation according to the language which we are using (Yule, 1985). These variations would not be haphazard but would be controlled or governed by certain rules. This would make LAD's work easier since it would already have universal principles programmed into it and all it would have to do would be to learn the rules of different particular languages such as Urdu, Hindko and English. Since this principle of economy is seen in all natural processes, Chomsky maintains, that this may also be how the human brain works.

When we learn a language we use LAD, which according to Chomsky and his associates, uses the principles of UG. But these are general principles and every language has its own particulars rules. For instance, we have the UG principle that there is a verb (V) at the head of a VP. Then, we have the choice that the verb (V) will either be at the left or at the right of the VP. The rules of Urdu-Hindko say that it will be on the right (roti *khaaun ga* or roti *khaasan*) and the rules of English say that it will be on the left (*will eat* bread).

Thus, when children acquire a language, they make use of the principles of UG resident in the LAD in their brains and then set the values of the universal parameters according to their language. Thus, they learn the rules of their own language. The basic thing to remember is the geeral principles of UG: We all possess certain basic rules (principles) for processing human languages in ur brain at birth. Since the basic rules (principles) are already in the brain, language learning becomes easy for human beings.

To explain why the learners of a language demonstrate 'uniformity' in learning their first languages and how they come to master a plethora of complex linguistic structures in a relatively short period of time (4 to 5 years), Chomsky posits a biologically endowed innate language faculty or Language Acquisition Device (LAD) which exists within brain and is transmitted genetically in human beings from parents to their children and it is assumed to be responsible for language learning.

1.3.2 Principles and Parameters (Rules)

The principles are common to all languages while rules (parameters) are language specific. Every language of the world has syntactic categories such as nouns, verbs, adjectives etc. This is a universal principle.

Arrangement of these lexical items in a chain or sentence is decided by the specific rules or parameters of a particular language. It is the word-order variation concerning relative position of heads and complements within phrases. Parameter may also be defined as *a variable which may be given a series of values*. It is something which can change in value but which does refer to a 'heading' or 'measure' under which similar things can be placed. This may be analogous to a tailor's vocation. A tailor's parameters consist of headings such as length of leg, length of arm, width of shoulder and so on. All of these parameters would vary from client to client, but all of his clients would possess these measurements.

Here are three sentences:
1. Ayesha went to school (English)2. Ayesha school bhagi (Urdu)3.Ayesha school nassi (Hindko). Without rules no sentence can be produced. A language is always rule-governed. Each sentence above has a structure. The well-formed structure of each sentence is dependent upon certain rules. We cannot put 'school' before 'went' in English. The arrangement of words in an English sentence is structure dependent. So is the case with Urdu and Hindko sentences. This *structure-dependence* is therefore a universal principle. It applies to all languages. Under the universal principle of structure-dependency each language makes its own particular rules. In English, the verb **ran** comes before the place where the subject (Ayesha) went. In Urdu the verb **bhagi** (ran) comes after the 'school' (Rehman, 2010).The same is the case with Hindko where *nassi* (verb) comes after*school*(a place). The syntactic arrangement of words in English sentence is SVO (subject-verb-object) while in the case of Urdu and Hindko sentences it is SOV (subject-object-verb). To put it in another way, there are three verb phrases (VPs): *went to school*, *school bhagi*, *school nassi* . In English the verb *went* comes before its complement while in Urdu and Hindko verb phrases, verbs (bhaagi, nassi) come after their compliments. Moreover, in English the verb **ran** is not marked for gender but in Urdu and Hindko it is marked for gender as is evident from the inflectional morpheme **I (**ی) of bhaagi and nassi which means we are talking about a girl. This is not so in English. If we had used another inflection **–aa** ا**,**then the subject would have been a masculine. We can give the rule *that in Urdu gender governs the morpheme used for inflection in verbs*. This means that universal principles remain the same, but the rules vary from one language to another.

1.3.3 Universal Principles

Few universal principles are: Projection Principle, Principle of Phrasal Heads, Structure Dependency Principle and Subject Pro-Drop Principle. Here is a brief introduction to these principles:

1.3.3.1 Projection Principle states that the properties of lexical entities are projected onto the syntax of the sentence. Every language has different rules regarding this universal principle. In English the verb 'put' is always followed by an NP (Noun Phrase) and a PP (Prepositional Phrase) of location. Here is an example: I put my *car*^{NP}*in the garage*^{PP}.

1.3.3.2 Principle of Relative Clauses posits that there is an order according to which languages take relative clauses. Languages can have only subject relative clauses, that is, the subject of the clause is related to the noun: *Ali is the boy who sang in the college.*

1.3.3.3 Pro-drop Principle says that all languages will be either subject prodrop or non-prodrop. They will either drop or take the subjects in declarative clauses. If a language says that sentence *Am hungry* is well-formed, it is a pro-drop language and if it says that the sentence *I am hungry* is well-formed, then it is non-pro drop language. Urdu and Hindko are pro-drop languages while English is non-prodrop language (Cook,1988).

1.3.3.4 Head Principle of UG says that 'heads' occur in the structure of all languages but in some they are positioned on the right in the phrases and in some on the left. Here is an example of a prepositional phrase: *on* bed (English), chaarpai *par* (Urdu), manji *utte* (Hindko). Head means the 'head of a phrase'. There are five kinds of phrases in English: Noun Phrase, Verb Phrase, Adjectival Phrase, Adverbial Phrase and Prepositional Phrase. In talking about the head parameter, we are concerned with the place of the head in various languages. *The shared or universal fact is that all languages have phrases with heads.* This head may be at the beginning of the phrase or at its end. Thus head parameter varies from language to language, from head left (head-first) to head right (head-last) in structure. In English head in nouns, verbs, preposition, adjectives etc. precede their complements. However there are other languages like Korean, Urdu and Hinko in which heads follow their complements. So English is a head-first language whereas Korean, Urdu and Hindko are head-last languages. The question now arises whether a

principle which is not found in all human languages can be called a universal principle of grammar or not. We can classify languages according to which principles of UG they share. There are two types of universals: implicational, statistical or Greenbergian. (Cook, 1988).

1.3.4 Head in a Verb Phrase

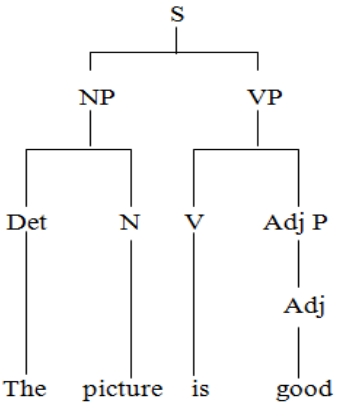
There have been two different analyses for the English VP. In the eyes of transformational grammarians the structure of a VP includes a verb and its complementation. The popular transformational division of a sentence into a subject and a predicate, that is, an NP and a VP, usually widens the idea of VP to more than one phrase. In TG literature, a VP can, in most cases, be subdivided at least into two more elements, the verb (realized by a VP) and its complement (usually realized by an NP, an AdjP or an AdvP). Another view of a VPrestricts the term VP only to the verbal element of the sentence (or verbal group) without paying attention to its possible complementation. This group is formed by two elements: the Main Verb and the Auxiliary System. In the present study the second notion of a VP has been adopted for analysis of verb phrases of Hindko, Urdu and English.

English verb phrase '*Close the Door'* has verb 'close' as head and 'the door' as its complement. It is clear that head in English verb phrase precedes its complement. It can be contrasted with Urdu and Hindko verb phrases where the head follows the complementation. 'Darwaza Band Karo' is an Urdu verb phrase whose head is 'band karo'and complement is 'darwaza'. The same is the case with Hindko verb phrase.

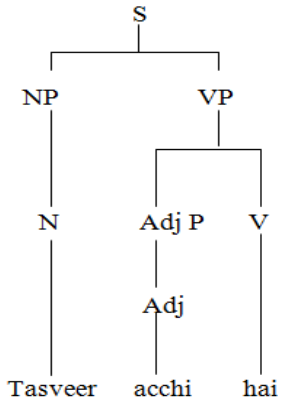
English Verb Phrase			Urdu Verb Phrase			Hindko Verb Phrase	
Head	**Complement**		**Complement**	**Head**		**Complement**	**Head**
Close *(close)*	the door *(door)*		Darwaza *(door)*	band karo *(close)*		Booha *(door)*	band karo *(close)*
English Head First Language			Urdu Head Last Language			Hindko Head Last Language	

English consistently positions heads before complements, it is a head-first language. By contrast, Hindko and Urdu consistently position heads after their complements; they are head-last languages. Here is another example of head placement in English and Urdu sentences in a Verb Phrase:

(a) The pictureis good (English)
NP VP



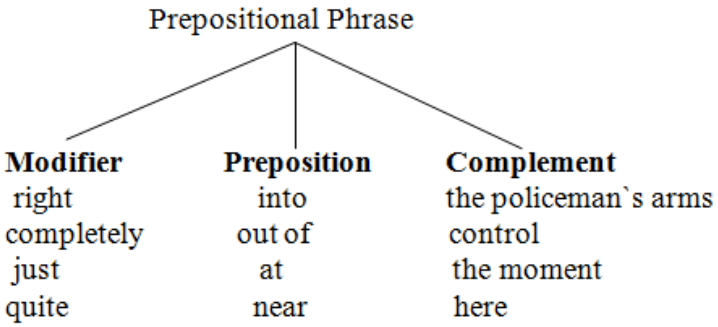
(b) Tasveeracchi hai (Urdu)
NP VP



In English sentence, the VP is '*is good'* and V is '*is*'. This verb comes at the head of Verb Phrase '*is good'* which is on the left. In Urdu sentence, the VP is '*acchi hai'* and V is *'hai'* which acts as a head. This head comes on the right. In many other languages such as Japanese, Hindi, Panjabi and Hindko the head comes at the end of the VP. Thus, in the choice of placing the head in a verb phrase (i.e. filling the head parameter), Universal Grammar (UG) gives us two possibilities: *the head can be first or last in the verb phrase*. Individual languages give specific rules as to whether it should be put first or last in that particular language. People who learn that language learn that specific rule (Rehman, 2010).

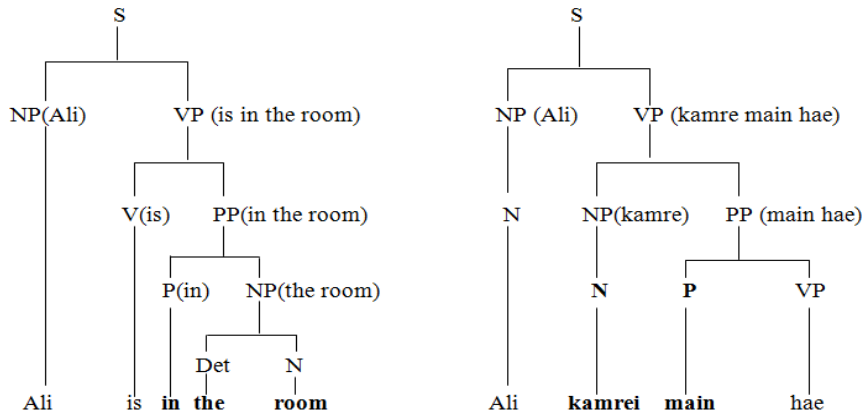
1.3.5 Head Parameter in a Prepositional Phrase

Biber et al. (2007) state that prepositional phrases mostly consist of a preposition followed by a noun phrase, known as the prepositional complement. Downing and Locke (2006) argue that "the internal structure of PPs consists of a preposition and its complement, both of which are obligatory, and an optional modifier".



Here are three phrases from the corpus of English, Urdu and Hindko:

Ali is in the room ***in* the room** (an English prepositional phrase)
Ali kamre main hae **kamre main** کمرے میں Urdu prepositional phrase**)**
Ali kahre bich eh **kahre bich** کہرے بچ An Hindko prepositional phrase)
Head of Urdu phrase is '*main*' which follows its complement 'kamre'. Urdu is had-last in terms of prepositional phrase while English is head-first as is evident from 'in the room' where 'in' comes first than its complement 'the room'. Here is Tree Diagram for English and Urdu prepositional phrases:

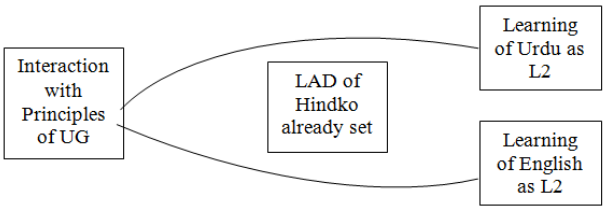


1.3.6 Direct and Indirect Access to LAD

If it is accepted that there is a UG in the mind of a language learner, then question arises if the principles and parameters of the UG are equally present at all periods of human mental development. There are two schools of thought on this.

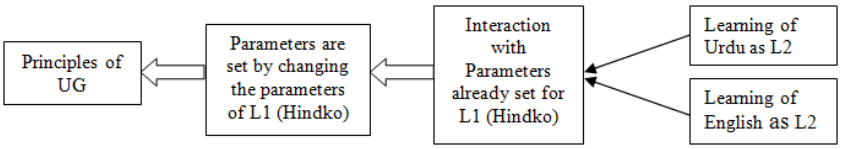
1.3.6.1 Direct Access Model

This model says that the UG remains available to the language learner at all stages of mental development. It means it will be available for second language learning as well and all that the learner has to do is to set the parameters of the new language just as he did for his first language. In this model, L1 does not interfere with learning of L2. In this case, L1 is Hindko while L2s are Urdu and English. Principles of UG are directly available to the L2 learner. In this model, unmarked settings are easier to learn no matter what the L1 settings are.



1.3.6.2 Indirect Access Model

This suggests that learners will first shift the parameters already present in their minds (from their first language learning experience). This means that because the first language will have already set the parameters, any subsequent change in them will be made with reference to the first language, rather than with reference to the principles of the UG as was the case the first time round. In this model only those settings are easier to learn which are found in L1 (Hindko).



1.4 Statement of the Problem

The purpose of the present study was to investigate whether the principles of universal grammar are directly accessed or indirectly when learning a second language. The study also aimed at finding the co-relation between ease of learning of L2 if it's parametric setting resembles that of L1. Languages under study were Hindko (L1), Urdu (L2) and English (L2). The child in this study had already acquired her L1(Hindko) and was now learning Urdu and English simultaneously.

1.5 Hypothesis

- Learning of L2 will be facilitated if it has the same head parametric setting as learner's L1.
- L2 learner will have an indirect access to the principles of UG if his /her L1 LAD is already settled.

1.6 Objectives of the Study

- To find out position of head in verbal and prepositional phrases of Hindko, Urdu and English.
- To investigate whether the same parameter setting of L1 and L2 facilitates learning of L2.

● To investigate as to which model, Direct Access to UG or Indirect Access to UG, operates in learning of L2 (Urdu and English).
● To find out if LAD of L1 (Hindko) influences learning of L2 (Urdu and English).
● To find out how far projection principle (Hindko L1) affects the learning of Urdu and English syntax.

1.7 Delimitation

The study is delimited to the following:
● Only two types of phrases have been analyzed in this study, that is, verb phrase and prepositional phrase.
● Verb Phrase (VP) in this study means 'verbal group' consisting of main verb and other auxiliaries not the whole predicate.

2.0 Literature Review

The infants receive considerable language input when they are still in utero and that they are soon able to take advantage of this input. McGilvray (1999) provides empirical evidence supporting the existence of an innate LAD. McGilvray argues that these young infants could not have acquired the information they possess from their environment because their exposure to (spoken) language has been negligible up to this point.

Research has revealed that infants begin to receive rich information about their native language through exposure to spoken words when they are still in utero. Most fetuses begin to respond to sound at 22 to 24 weeks (Hepper & Shahidullah, 1994) and by the time babies are born their basic auditory capabilities are relatively mature (Lasky & Williams, 2005; Saffran, Werker, & Werner, 2006).

Between 6 and 12 months infants fine-tune the perception of the individual sounds that distinguish between words (or phonemes) in the language to which they are exposed. Werker and Tees (1984) found that 6-to-8-month-old babies distinguish between a wide range of sound differences that signal changes in meaning either in their native language or in non-native languages.

Not everything that helps the child to learn language needs to have the structure of formal teaching. In addition, children do not only learn from speech that is directed at them but also from language input that they overhear (Akhtar, Jipson, & Callanan, 2001; Scholz & Pullum, 2002) such

as conversations between grown-ups or other children. This finding helps to explain how children can learn even in the absence of child-directed speech (as occurs in some cultures, see e.g., Ochs, 1985, as cited in Lieven, 1994).

The fast acquisition of vocabulary (vocabulary spurt) and syntax after the second birthday is frequently used as supporting evidence for the existence of language specific learning mechanisms that mature at genetically predetermined times (e.g., Chomsky, 1975, 1986; Lightfoot, 1989; Pinker, 1994; Smith, 1999).

Lieven, Behrens, Speares and Tomasello (2003) analyzed the multi-word utterances produced by a 2-year-1-month-old girl interacting with her mother. Of the 295 *multi-word utterances* recorded, only 37% were ‘‘novel’’ (they had not been produced in their entirety before). A total of 74% of the novel utterances differed by only one word from previous utterances. 24% of the novel utterances differed in two words and only few of the remaining utterances were more difficult to match. This suggests that the creativity in early language ‘‘could be at least partially based upon entrenched schemas and a small number of simple operations to modify them’’ (Lieven et al., 2003, p. 333). Similar results have been reported by Tomasello (1992 b), Rubino and Pine (1998) and Tomasello, Akhtar, Dodson, and Rekau (1997). Such findings imply that the child devotes extensive time to practicing and rehearsing familiar utterances.

Some studies indicate that 1- to-3-year-old children use verbs they hear frequently from adults with greater syntactic accuracy than those they hear seldom (Reali & Christiansen, 2007; Rubino & Pine, 1998; Tomasello, 1992b) and that they limit verb use to one or a few familiar construction types (Tomasello, 1992b). By contrast, older children (3.5 to 8 years old) produce
transitive utterances with verbs that they had never heard in such a construction (Ingham, 1993; Maratsos, Gudeman, Gerald-Ngo, & DeHart, 1987). This could indicate that initially children imitate adult language and learn at a later stage to apply structural rules to novel words.

Tomasello et al. (1997) demonstrated that 1.5- to-2-year-old children produce only few novel transitive utterances with newly learned verbs and that they seem to lack an understanding of
abstract syntactic categories.

To date extensive domains of language acquisition and input data remain unstudied, despite the large quantity of research dedicated to this question (Behrens,2006). This is not surprising given the vast amounts of input. Cameron-Faulkner,Lieven and Tomasello (2003) estimate that an average toddler hears between 5000 and 7000 utterances per day (or 5.5 to 7.6 million from their first to their fourth birthday). Quantitative studies that record the complete language productions of an individual child over very short time periods are rare (see e.g., Wagner, 1985). It is even more difficult to collect complete input data. Van den Weijer (1999) recorded and analyzed most of the spoken speech to which an infant was exposed between the ages of 6 and 9 months. Behrens (2006) recorded the language development of one boy over a three-year period (see also MacWhinney, 1995; MacWhinney & Snow, 1985, 1990; Sampson, 2002)for more extensive database collections). And yet it is only very recently that a researcher has begun to attempt to gather an uninterrupted record of all language input of even just one individual child (Roy et al., 2006). Clearly, we need much more work in this direction in order to understand what sorts of utterances constitute the typical input to children (Pullum & Scholz, 2002).

Studies quoted in foregoing paragraphs indicate that empirical evidence supports both the views of language acquisition namely mentalism and behaviorism. However, in majority of cases language acquisition was a matter of receiving 'input in small measure' and creation of novel utterances from the meager input. This supports the notion of preprogramming of human mind with language faculty.

3. Methods and Materials

3.1 Research Design

It was a longitudinal study spanning over a period of 12 months of a 3-year-old baby-girl with Hindko as L1. When observation of her first language acquisition and second language learning was formally started by the researchers, the girl had already settled her mother-tongue LAD. It was an exploratory study into the second language learning of a girl who was receiving language input from Hindko, Urdu and English simultaneously.

3.2 Language Input

Participant of the study was brought up in a joint family system comprising grandmothers, uncles, aunts, nieces, nephews, brothers and sisters. She had three elder siblings as well. In a joint family system, every child receives an abundant L1 input. So was the case with the subject of the present study who received a great deal of Hindko input till the age of two and half years. At this point in time, one of the researchers and his spouse started giving Urdu input just out of curiosity. She continued to receive this input over the next three to four months. It was very surprising to note that the participant began to pick Urdu phrases very easily. This intrigued the researcher's curiosity further in second language learning. After a lot of consultation with fellow researchers a roadmap for second language learning was designed. It was decided that two types of L2 input would be provided to the baby girl after her third birthday, that is, Urdu and English. A meeting of family members was called and it was decided that Noor-ul-Ain's paternal and maternal grandmothers, uncles and aunts would continue to speak Hindko (L1) with the girl while her siblings and researcher's nieces and nephews would speak Urdu (L2) with the baby girl. Researcher started speaking English (L2) along with his wife and few highly educated nephews. The ratio of input was as follows:
Hindko: 50% Urdu: 25% and English: 25%. The child had not been sent to playgroup school till the age of 4 years. She received three types of language input at home from the age of 3 till the age of four years.

3.3 Data Collection

Child's Hindko (L1) utterances were far greater than Urdu and English. It was difficult to record the whole language production of the subject from dawn to dusk. Data collection was distributed among family members. Initially mental notes of spoken utterances were made and later on transferred to a dairy. Later on, mobile phone recordings were made and the utterances were transcribed into written form. Some of the family members had good memories and were able to reproduce novel utterances of the baby. Using a variety of ways, a good amount of language productions of the three languages were recorded. Interaction for language input was available during girl's tuck-shop visits, morning and evening walks, playtime and at home. The researcher started entering data received from different family members into a diary. Later on the data was sifted and prepositional and verb phrases were segregated for analysis.

4. Data Analysis and Discussion

After the process of sifting and discarding irrelevant data, the data of verb and prepositional phrases of three languages was analyzed with interesting results.

4.1 Determining the Position of Head Parameter in Verb Phrases

The following table shows verb phrases from Hindko, Urdu and English with position of head and complements clearly marked.

Serial Number	In Hindko verb phrases, *Head* (that is, Verb) comes last. Hindko is Head-last Language		In Urdu Verb Phrases, *Head* (that is, Verb) comes last. Urdu is Head-last Language		In English Verb Phrases, *Head* (that is, Verb) comes first. English is Head-first Language	
	Hindko Verb Phrases		**Urdu Verb Phrases**		**EnglishVerb Phrases**	
	Column 1	Colum 2	Column 3	Column 4	Column 5	Column 6
	Complement	Head	Complement	Head	Head	Complement
1	Panhreen	De	Paani	Dou	Give	water
2	biskut	Khasaan	Biskit	Khaaun gi	(I'll) eat	biscuit
3	Pinsul	dainwaan?	Pinsil	doon?	(shall I) give	pencil
4	Kahr	julso?	Ghar	jaho (ge)?	(will you) go	home
5	Tishoo	chaa dou	Tishoo	de dou (na)	give (me)	tissue
6	Kursee	aanrh,	Kursi	la dou na,	bring	(the) chair
7	(bay ji, tussi) booha	kholo (na)	Darwaza	Kholain	open	(the) door
8	mama (kithe)	ve?	mama (kahan)	Hae	(where) is	mama?
9	ho (kounrh)	ahe?	who (koun)	hai?	(who) is	he?
10	Baalti	chaou na	(bhai) baalti	uthaou na	Lift	(the) bucket
11	panj gheete (kohnrh)	khaidsi?	panj gheete (koun)	hhaile ga?	(who) play	five-stone?
12	(tussi) cha	peeso?	(aap) chae	peeaenge?	(you) take	tea?
13	kahre	julle ahan	Ghar	jaa rahaee hoon	(I am) going	home
14	Sipaara	Parhsaan	Sipaara	Parhoonge	(I'll) learn	Qura'an
15	Guddi	sij gaiye eh	Gurhia	bheegh gaiye hae	the doll	has become wet

Table 4.1 shows the analysis of verb phrases of Hindko, Urdu and English. There are six columns in the table. Column 1 and 2 give analysis of Hindko Verb Phrases. In column 1, complement has been given while column 2 mentions head.Hindko verb phrase at S.No.12 is *Tussi Cha Peeso*? It is an interrogative sentence. Hindko being a subject-pro-drop language, the NP 'tussi', a personal pronoun, is usually not spoken in conversational Hindko. Without the subject, we get *chaa peeso*? The verb

'*peeso*' is acting as 'head' while the NP '*cha*' is acting as 'complement' in this Hindko VP. It is evident from the entries of column 1 and 2 that 'heads' in all Hindko phrases follow their complements or we can say that 'head' is to the right of its complement. To sum up, 'head' comes last in Hindko VPs. On the basis of this data, we can declare Hindko as 'head-last' language as far as its VPs are concerned.

Column 3 and 4 display complements and heads of Urdu VPs. It is evident from all the entries of column 3 that heads, like Hindko VPs, follow their complements in Urdu VPs. In the VP '*sipaara parhoonge'*, head is '*parhoonge*' which comes after its complement '*sipaara*'. If we contrast it with English VP 'learn Qura'an', we can see the head "learn' precedes its complement 'Qura'an'. So Urdu, like Hindko, is head-last language while English is 'head-first' language.

4.2 Determining the Position of Head Parameter in Prepositional Phrases

The following table shows prepositional phrases from language output of Hindko, Urdu and English with position of head and complements clearly marked.

Serial Number	In Hindko prepositional phrases, *Head* (that is, preposition) comes last than its complement. Hindko is Head-last Language		In Urdu prepositional phrases, *Head* (that is, preposition) comes last than its complement. Urdu is Head-last Language		In English prepositional phrases, *Head* (that is, preposition) comes first than its complement. English is Head-First Language	
	Hindko Prepositional Phrases		**Urdu Prepositional Phrases**		**English Prepositional Phrases**	
	Column 1	Colum 2	Column 3	Column 4	Column 5	Column 6
	Complement	Head	Complement	Head	Head	Complement
1	mama	kol (julsaan)	Mama	paas (jaoonge)	(I'll go) to	mama
2	manji	te (beh)	charpai	par (bhaitho bhai)	(sit) on	bed
3	maiz	utte (rakkhaan?)	Maiz	par (kakh doon?)	(shall I put it) on	(the) table?
4	joube	bich (ke ve?)	Jaib	main (kia hae?)	(what's) in	(the) pocket?
5	billi boote	te (ve)	billi drakht	par (hae)	(the cat is) on	(the) tree
6	maire	daar (ah)	Maire	paas (auo)	(come) to	me
7	guddi talai	talle (ve)	ghurhia talai	ke neeche (hae)	(the doll is) under	(the) mattress
8	(kal) bazare	aan (julsaan)	(kal) bazaar	ko (jaoonge)	(tomorrow go) to	bazaar
9	saje	paase	Daain	Tarf	To	(the) right

10	(bhai kahr)	bich (eh)		(bhai ghar)	main (hae)		(he is) at	home
11	waak	aasde (julsaan)		Waak	ke leeye (jaange)		(I'll go) for	(a) walk
12	roudoon	paar (doggi eh)		Sarrhak	paar (kutta hae)		(a dog) across	(the) road
13	khirkee	naal (kirkilli)		Khirkee	ke qareeb (chapkilli)		(a lizard) by	(the) window
14	tiffin	bich (kuj ve nahain)		Tiffin	main (kuch bhi nahain)		(nothing) in	(the) tiffin
15	frij	bich (ke ve?)		Frij	main (kia hae?)		(what's) in	(the) fridge?

Table 4.2 shows the analysis of prepositional phrases of Hindko, Urdu and English.

Prepositional phrases (PPs) mentioned at S.No.1 are :*mama kol* (Hindko), *mama paas* (Urdu) and *to mama* (English). In Hindko and Urdu, head (prepositions *kol&paas)* come after their complement(mama) while in English the head (*to*) comes before the complement (mama).

It can be deduced that English is Head-First language as far as prepositional phrase structure is concerned.

4.3 Analysis of Diary Entries

Total time of recording of spoken utterances of the child was one year (age 3 to 4). However, actual interaction time spanned around 4 to 6 months. A variety of utterances were recorded during these reactions. Observers reported on many occasions that learning of Urdu was faster than English. In order to investigate the ease and speed of Urdu learning unstructured interviews of the observers were conducted. On the basis of these interviews and discussions the researchers came upon the following:

Participant's mother tongue Hindko had the same head parameter setting as that of Urdu. Whenever, the girl received any input of Urdu, the LAD of Hindko supported the articulation of Urdu utterances. Girls' cognitive framework did not have to be shuffled to accommodate Urdu phrases. Learning of English was a bit challenging for the girl because girl's mother tongue (Hindko) had different head parameter setting from that of English. So the child, on listening an English sentence, confronted strange syntax (instead of SOV, it was SVO). The girl took time in processing the information and finding the difference of two different Head Parameter settings. This way the observer thought that the girl took too much time in producing English utterances.

One of the objectives of this longitudinal study was if projection principle helps in the second language leaning. It is evident from the collected data that Urdu and Hindko have the same projection of lexical entities. Let's take the example of two verb phrases of Urdu and Hindko.

(i) wo school bhaga (ii) wo school bhagi (Urdu)

The verb inflection 'a' indicates that the subject must be masculine while the morpheme 'i' in the second sentence says that the subject must be a feminine. The same verb inflections are available in Hindko as well.

(iii) Wo school nasia (iv) wo school nassi (Hindko)

Inflectional morphemes in Hindko verb phrases are also marked for gender like that of Urdu. Lexical properties of verbs in Hindko and Urdu project themselves into the syntactic arrangement of words. This is not the case in English. In *he went to school* and *she went to school.* the verb is same (went) for masculine subject and feminine subject. Just by seeing the verb we cannot decide about the subject. But when we hear bhaaga and bhaagi we are very much clear about masculinity and femininity of the NPs.

Lexical entities of Hindko and Urdu, having the same behaviour, support each other. On this basis as well, learning of Urdu is quite easy as compared to English.

Because of same Head Parameter setting, the LAD of Hindko speaker does not have to readjust itself for Urdu sentences. Although Urdu learner has an indirect to the principles of the UG yet LAD does not have to shuffle its arrangement of heads and complements. In the case of learning of English, the access to principles of UG is again indirect (the LAD of Hindko already settled and fixed), however, for every new utterance of English, the LAD had to change its parameter setting. This was evidenced from halted articulation of English phrases by Noor-ul-Ain.

5. Findings

Based on data analysis the following were the findings:

5.1 One of the objectives of the present study was to determine the position of heads in the three languages namely Hindko (L1), Urdu (L2) and English (L3). After the analysis of prepositional and verb phrases of the three languages the following position of the heads was fixed:

5.1.1 Heads in Hindko and Urdu phrases take the right or the last position thereby rendering these languages as "Head-Last" languages.

5.1.2 Heads in English phrases take the first or the left position thereby rendering it as "Head-First" language.

These findings support Chomsky's view that every language has the concept of a 'head' as a universal principle and that the languages differ only in parameter setting.

5.2 Another objective of the study was to find out if L1 interferes with learning of L2. The study reveals that LAD of mother-tongue does have a role to play. When the LAD of the mother tongue is fixed and settled (through biological development), learning of second language or languages approaches the principles of universal grammar (UG) through L1. There is no direct access to the principles of the UG. Every new input in the target language (second language) will be first compared with L1 parameter setting present in the cognitive framework of the language learner and then it will have access to UG principles. If the target language has the same parameter setting, its learning will be easy (Hindko and Urdu) and if the head parameter setting of the target language is different from L1 LAD then second language learning will be difficult (Hindko and English).

5.3 Participant of the study was unable to utter and retain English phrases during the observation period; however, in the case of Urdu it was the other way round. This was because of different setting of head and its complement in L1 and L2 in the case of Hindko and English. A Hindko speaker learning English will take a bit extra time in uttering English sentences because the learner first has to reshuffle his already-fixed Hindko LAD to accommodate English phrases having different parametric arrangement. This entails that learning of Urdu is easy for a Hindko speaker because of the same parametric setting.

5.4 Verb phrases of Hindko and Urdu have distinct morphological inflections for masculine and feminine genders which is not the case with English verb phrases. This sameness also facilitates learning of the second language.

5.5 Urdu and Hindko have two types of second person pronouns while in modern English the same pronoun is used for a singular and plural addressee. Hindko *Tuddan* and *Tussan* have equivalents in Urdu in the form of *tujhe* and *tumhain*. English uses 'you' in both the cases. This poses a cultural challenge for Hindko speakers learning English. While addressing seniors or elders in English, they have to use 'you' which, on the analogy with Hindko and Urdu, is considered as impolite term. Hindko and Urdu speakers learning English will be faltering while addressing seniors using 'you'.

6. Conclusion

The easy and fast learning of Urdu as compared to English by Hindko L1 speaker clearly points out that there is something going on in the mind of the learner that influences language learning processes. This study proves that language acquisition device does exist otherwise it would not have been possible for Hindko L1 speaker to pick up the phrases of a second language (Urdu) in such a short span of time. The input is an essential part of the second language but it serves only as a triggering element. Children are born with language faculty. The input stirs the kernel clauses (finite number of language structures) to create novel and infinite language structures. If the second language resembles L1, its learning becomes quite easy. Classroom implication for this is that ELT teachers need to be patient with Hindko speakers. English has different parameter setting from Hindko.

The study proves the hypothesis that L2 learning will be facilitated if it has the same head parameter setting as that of L1.

7. Further Research

In this study only two phrases were analyzed for head parameter setting, that is, verb and prepositional phrases. Adjectival, adverbial and nominal phrases have yet to be explored in order to determine the position of heads in these phrases. The future study will decide whether universal principles are applicable to syntactical categories in a language. On the basis of analysis of two phrases in this study, Hindko and Urdu have been declared

as Head-Last languages. Is it really so? Will these two languages have consistent behaviour of head-lastness in the case of other three phrases as well? This needs to be explored.

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