CHAPTER- V

A PSYCHOLINGUISTIC STUDY OF SYNTACTIC DISORDERS AMONG URDU- HINDI SPEAKING CHILDREN
5.1- SYNTAX – An Introduction

The term ‘Syntax’ is taken from ancient Greek word-Syntaxes, which is a verbal noun and which means ‘arrangement’ or ‘setting out together’.

"THE SYNTAX determines the linear and hierarchical arrangement of elements in sentences" (John. T. Jensen, 1995:14). Since syntax concerns the ways in which words can be combined together to form Phrases and sentences and thus raises questions like what is a grammatical and what is an ungrammatical sentence. What kind of rules determines the ways in which we can or cannot combine words together to form phrases and sentences. Thus it is given, “the job of the syntactician can be divided into two main steps: first determine the correct structure(s) for each grammatical sentence; and second formulate a set of rules which will distinguish between grammatical and ungrammatical structures for that language” (Kroeger, 2004:6)

As we Known human communication system has the feature of double articulation, thus language is manifested on two different levels, and these are:

(I) The morphological level (grammatical level).

(II) The phonological level.

The phonological level roughly corresponds to letters and words in written language. The feature of double articulation is the peculiarity of human language and is responsible for the creativity of language and separates human language from all other natural systems of communication
we know of. The traffic signals on roads lack the feature of double articulation, but rather than having no articulation, it would more commonly be said to, as having first articulation only.

The morphological level is also called grammatical level and in the present context can also be called as syntactic level. At this level the system consists of the smallest meaningful units available. This level of articulation is economical to language. A language has theoretically unlimited number of sentences consisting of units in succession which can communicate infinite number of messages. The meaningful units at the first level are complete signs each consisting of a signifier and a signified. “The first articulation of language is that whereby every fact of experience to be communicated, every need that one wants to make known to another, is analyzed, into a succession of units each of which is endowed with a vocal form and a meaning” (Martinet, 1960: 22). Codes at the first level have recurrent meaningful units, that is, the successive units of one sentence construction expressing one message or fact can also occur in other sentence constructions expressing other facts. “Each of them may recur in quite different contexts in order to communicate other facts of experience”. (Martinet, 1960:23), for example the word ‘table’ in construction like ‘I am writing on the table’ can occur in a different construction-‘The table of the Library is broken’.

To make communication possible the units are arranged with in a framework acceptable to all the members of the concerned linguistic community. If it is violated by any speaker, then the language becomes less
comprehensible and the person is said to have syntactic disorder. Syntax is the very important component of production level. It further has two main components- semantics and post lexical phonology. The logical meaning of sentences is the concern of semantics and post lexical phonology is concerned with the pronunciation of words when they are arranged in sentences.

Coming back to the arrangement of words in a sentence, there is innumerable number of human languages and different languages give a wide variety of possible arrangements of the elements in sentences. The word order in a sentence varies from language to language, for example English is an SVO type of language, which means the Subject comes before the verb and the direct object comes after the verb. Hindi and Urdu are linguistically the same languages and differ only at the level of script and to some extent vocabulary, so both are of SOV type that is the subject comes before object and the verb follows the object.

Speakers of a language can make out grammatical sentences from ungrammatical sentences of that language. It is obvious that any native speaker of a language has the knowledge of the grammar of his native language. Native speakers know how to negate sentences, how to ask questions, give commands etc in their mother tongue. Their grammatical knowledge is subconscious rather than conscious. Technically speaking we may say that native speakers have grammatical competence in their native language that is, they have subconscious knowledge of the grammar of their first language. In 1960s Chomsky has drawn a distinction between
competence (the fluent native speaker’s subconscious knowledge of his language) and performance (what people actually say or understand by what someone else says on a given occasion). “Competence is the speaker-hearer’s knowledge of his language; while performance is the actual use of language in concrete situation” (Chomsky, 1965:4). Very often performance is an imperfect reflection of competence. Occasional slips of tongue, occasional misinterpretation of what someone else says is common with all normal people. But this doesn’t mean, they don’t know their native language or don’t have competence or have speech disorder. Misproductions and misinterpretations are performance errors, attributable to a variety of performance factors, like tiredness, boredom, various external distractions etc. It can not be denied that ‘performance’ is a field of study, but it is more properly studied within the different though related discipline of psycholinguistics, which studies the psychological processes underlying speech production and comprehension. To establish a speech as disordered, it is essential to understand the ordered form of speech or the concept of standard for which an effort has been made in the following section.

5.2- STANDARD AND STANDARDIZATION

According to oxford English dictionary, standard as a noun means ‘object or quality or measure to which others (should) conform or against which others are judged; required degree of excellence etc, ordinary procedure etc’. In linguistics also, the term ‘standard’ has been understood in a similar fashion, but its different branches grasp the term ‘standard’
accordingly. The scholars of sociolinguistics and psycholinguistics understand this notion differently, because these two branches of linguistics approach language in a different way. In sociolinguistics, relationship of language and society is studied, "sociolinguistic studies language in relation to society (Hudson, 1982:1), and psycholinguistics studies the relationship between language (production and comprehension) and human mind, "the psycholinguistic addresses the question of how the mentally represented grammar (linguistic competence) is employed in the production and comprehension of speech (linguistic performance) [Radford, 2001:10]. Because of these two different types of studies, the approach of the problem to 'standard language' by these sub disciplines of linguistics is also from two different angles.

Many attempts have been made by various scholars of sociolinguistics to define standard, but the question of standard and non-standard is very haphazard from sociolinguistic point of View, "the notion of 'standard language' is imprecise" (Hudson, 1982:32). From sociolinguistic perspective the notion of 'standard language' means establishing a variety of language as standard language and other varieties as the dialects of it. In sociolinguistics, society has a direct role to play in establishing a language as standard, "standard languages are the result of a direct and deliberate intervention by society" (Hudson, 1982:32). But from the angle of psycholinguistics, the term 'standard language' has a different meaning. While studying speech disorders in psycholinguistics, the terms 'standard' and 'non-standard' means a
comparison of correct and incorrect language at the colloquial level. The speech is said to be incorrect and disordered if it creates hindrance in the intelligibility of the listeners, who are the native speakers of that language.

In sociolinguistics, Haugen (1966) has given four processes through which a language or a standard language passes; these are: selection, codification, elaboration of function and acceptance. To call a variety of language as standard, that variety should have social and political importance. It should have written dictionaries and grammar books of that variety so that every one can agree what is correct, it should have an elaborated use in various domains like- parliament, courts, educational institutions etc, also that variety should be accepted by a good number of people as the language of their community, that is if it is accepted as the national language then it functions as a strong unifying force for the state and it will have both quantum and power. A similar concept has been given by Wardhaugh (1986:30) “Standardization refers to the process by which a language has been codified in some way that usually involves the developments of such things as grammar and dictionaries, and possibly a literature”.

The notion of ‘standard language in psycholinguistic completely ignores the four processes explained by Haugen through which a standard language passes. To some extant we can say that a standard language in psycholinguistics also passes through the processes of codification and acceptance but in a different way. For codification it can be said, that the speakers use the already established grammar of the language, which pass on
from generation to generation orally, without consulting the written books. For acceptance in the present context of syntax, we can say, that format of language, which is accepted by its normal native speakers, which they speak and comprehend, is considered as correct and standard, against which disorders are judged.

To study disorders norms should be determined first. If we talk of standardization of syntax in languages like Urdu & Hindi, which are structurally same then from the outlook of psycholinguistics the sentences should have correct vocabulary, SOV type of word order, they should have an agreement of number & gender, the sentences should have tense markers, case markers etc and the arrangement of words with in the sentence should be in accordance to the requirements of these languages (the above conditions are the same for their dialects). Thus in a nutshell to determine the precision of a syntactic structure, we need to analyze, the proper vocabulary and the system which represent structural relations. It can be said that the notion of 'standard language' in sociolinguistics is partly empirical and partly theoretical but in psycholinguistics it is totally empirical. In sociolinguistics, deflections in speech are called deviations, while those types of speech diversions which hinder the intelligibility of the listeners of the same language are called disorders in psycholinguistics. To have a pragmatic understanding of standard syntax in the domains of psycholinguistics, it is indispensable to have a separate understanding of syntactic deflections in sociolinguistics and psycholinguistics. In this backdrop before conducting the
experimental study on syntactic disorders in psycholinguistics, a discussion on syntactic disorders is offered in the following section.

5.3- SYNTACTIC DISORDERS

Human language is considered as a system which makes infinite use of finite means. Normal human brain has the capacity to go on generating new sentences by combining words and countless number of words by combining limited number of basic sounds. The native speaker of a language is also able to understand an unlimited number of expressions that are new to his experience and are in no way similar to his prior knowledge of sentences, “Creative aspect of normal language use is one fundamental factor that distinguishes human language from any known system of animal communication” (Chomsky; 1972:100). Along with the creative capacity normal human mind also bear the grammatical rules of the language, “the ability to acquire and use language is a species-specific human capacity, that there are very deep and restrictive principles that determine the nature of human language and are rooted in the specific character of human mind” (Chomsky 1972:102). Creating immeasurable number of utterances using predetermined rules is the core of mental grammar and is the most important feature of a normal human brain. A grammar then is a formal system, which provides explicitly the finite mechanisms available to the brain for infinite use, in such a way the empirical consequences can be derived and tested for accuracy as in the natural sciences.
If a person lacks generative capacity of his language or makes improper use of the rules governing the language then he is said to have a deviant or disordered syntax. If we take the case of sociolinguistics then there can be two types of deviations—situational deviation and individual deviation but it is crucial to distinguish between situational deviation and individual deviation. Situational deviation is one where we deviate on the basis of situation, like we talk to elders in one way and to little children in a different way. Depending on the kind of situation, we produce certain predictable deviations from the overall norm. But in any situation of encoding, individuals will still display variations about the new situational norm, these are called individual deviations.

When we talk of individual deviations it is observed that individual deviations in normal speech are different from individual deviations in abnormal speech. The individual deviations in the speech of abnormals are called speech irregularities or speech disorders, which is the concern of proposed study. Speech disorders in abnormals is a psycholinguistic problem, as discussed earlier the present research work deals with speech disorders at three levels these are— at the point of phonology, at the morphological level and at the syntactic plane. This chapter deals with the speech disorders in abnormal children at the level of syntax. Syntactic principles are said to be unique to language, this view of syntax makes two interesting predictions about language disorders: first there may be cases of language disorders in which knowledge of syntax is impaired while other cognitive systems remain
unaffected, it may be because of some brain lesions or genetic defects. The second prediction is that syntactic disorders should involve impairments of both language production and language comprehension. Although, types of syntactic disorders are versatile, this has been discussed time and again by different scholars under different heads. According to Jacobson’s concept of Aphasia the two which are under study are named as:

(I) Efferent Aphasia (which is also called Agrammatism).

(II) Dynamic Aphasia.

Agrammatism or Efferent aphasia like symptoms was found in a child having cerebral palsy and symptoms of Dynamic Aphasia were found in a child with fragile X syndrome, whose case studies are being presented in the following subsections.

5.4 CASE STUDIES

5.4.1 CEREBRAL PALSY (CP): An Insertion

The case study presented in the following subsection is of a cerebral palsied case, thus it is necessary to have an understanding about CP and its various types because that way it will become easier to relate the linguistic disorders with this disability.

Cerebral Palsy basically comprises of a group of childhood disorders in which motor abilities of the individual are affected. This disorder was first described elaborately by a British surgeon, William Little in 1862 and the term was coined by Phelps in the year 1936. It is a disorder of the brain which
is evident from the name itself which comprises of two words ‘cerebral’ and ‘palsy’, where ‘cerebral’ refers to ‘brain’ and ‘palsy’ refers to “the disease or a condition of weakness, paralysis or in-coordination which causes the hands and the limbs to shake and to a disturbance of the muscles and Joints” (Chengappa & Thirumalai, 2001:13). The motor abilities in CP are affected because of some damage caused to the brain before during or immediately after birth. Its ratio is about 1.5 to 4 per 1000 live births. About 70% of cases have CP accompanied by some other disorder; the most common is mental retardation. The chances of CP increase with premature or under weight babies. Twins are four times more likely to develop CP than single births, and triplets are still more prone to it. It is a group of disorders associated with developmental brain injuries. “CP results from injury to the brain, is characterized by lack of muscle control and coordination. Depending on the extent of injury to the brain, it could result in muscle tightness or spasm, involuntary movement, disturbances in gait and mobility, impairment of sight, hearing or speech and seizures” (The Times of India, Delhi: June, 2006). The brain injury in CP may occur before, during or immediately after birth. Immediately means, people may develop it when the brain is under development, so it can develop in at most first five years of life, which is the crucial period for mental development. Cerebral palsy is characterized by a disruption of motor skills, which is not considered a disease but it is a chronic non-progressive neurological disorder. There is no cure to it, but different therapies may prove to be helpful to get better the disabilities. Studies have
suggested that 80% of all the cases occur before the age of one month. It is a non-progressive disorder, which means once the damage to the brain is done, the condition neither worsens nor improves throughout the life although the symptoms may change with time. In cerebral palsy there is a loss of motor skills, the muscles themselves are not defective, but the problem mainly lies in the brain’s ability to control those otherwise healthy muscles.

Various scholars have presented different criteria for classifying CP. Different types of classification of CP are:

(A) **Topographic classification**: Under this classification CP has been classified on the basis of the parts of the body involved. According to this classification, it is of the following types.

(i) **Monoplegia**-where only one limb is affected

(ii) **Paraplegia**-only legs are affected

(iii) **Hemiplegia**-Here only one side of the body is involved, as shown in Fig1 (b). It is found to be the mildest from. A person having this type of CP will have only few limitations in daily life.

(iv) **Triplegia**-both legs and one arm is affected.

(v) **Quadriplegia**-All the four limbs (the trunk and the head) are involved [Fig1 (c)]. Majority of these individuals are not able to stand up or walk.

(vi) **Diplegia**-where legs can be more affected than the arms [Fig1 (a)].
Fig. 1(a) diplegia  
Fig. 1(b) hemiplegia  
Fig. 1(c) quadriplegia

Source: http://www.thеспasticentre.org.au/about_cp/what_is_cp.htm
(B) **Etiological classification:** Etiological classification classifies Cerebral palsy on the basis of the time of occurrence of brain damage to the young child, according to this classification, it is of the following types.

(i) **Prenatal** - If injury to the brain is caused before birth.

(ii) **Para natal** - If it occurs during birth.

(iii) **Post natal** - If injury occurs shortly after birth.

(C) **Functional classification:** On the basis of functional capacity CP has been classified as:

(i) **Spastic** - Here muscles are permanently contracted. Of all the CP cases 70-80% has this type. People having this type have damage to the corticospinal tract, motor cortex or pyramidal tract.

(ii) **Athetoid or dyskinetic** - It occurs in about (10-20) % of all cases. Persons with this type of CP generally have involuntary body movements.

(iii) **Ataxic** - It is the rarest type of CP. It occurs in about 5-10 percent of all cases. People with Ataxia have damage to cerebellum, which results in problems with balance especially while walking.

(iv) **Mixed** - In mixed type of CP, a mixture of symptoms and most commonly that of spastic and athetoid are found.

All types of cerebral palsy are characterized by abnormal muscle movement, posture, motor development and coordination, but along with this, CP is also manifested by speech disturbances. Dysarthria is one of the
symptoms of it, which is a motor speech disorder and is linked to speech production. It occurs due to a weakness or in co-ordination of the speech muscles. In dysarthria people often have voice problem they find difficulty with getting enough air support during speech. They may have difficulties with language like articulation, sentence construction, fluency of speech etc. On the basis of studies done so far there can be an additional category for classifying CP depending on the language use by these patients, which we can call Linguistic Classification.

(D) Linguistic classification: According to this Classification it can be of the following types:

(i) Agrammatic CP where Children are unable to acquire various grammatical categories.

(ii) Grammatic CP Here children acquire almost all the grammatical categories although in a disordered way.

5.4.1.1- “CASE J”

5.4.1.1.1- CASE HISTORY:

Case J was an eight years old boy at the time of evocation of speech. The academic qualifications of his parents were B. com. His father was a businessman, and mother a housewife. He had two siblings one elder sister and a younger brother, thus his birth order was second. His family structure was nuclear, he belonged to a middle class family with a monthly income of
Rs.12000. His family didn’t have the history of consanguinity and seizures. No mental retardation previously occurred in his family.

(A)- BEHAVIOR OF THE CHILD FROM BIRTH TILL THE AGE OF EIGHT:

(a) Baby’s presentation at the time of birth:

Case J cried 15min after birth which is a common feature with most of the mentally challenged children, his body color was dull and was underweight at the time of birth, with his birth weight being 2.0 Kg. Babies who are born underweight are more prone to cerebral palsy (CP). He also had respiratory problems after birth.

(b) Post Natal Period:

In post natal period, he had seizures at day three and they were still occurring, however his weight gain was normal.

(B)- DEVELOPMENTAL MILESTONES:

(a) Motor Developments:

Since Case J had hemiplegia type of CP, so his developments were delayed but not much, because hemiplegia is the mildest form of CP. Smiling, which is the first step in a child’s development and in a normal child it comes at around three months but Case J started smiling at seven months. Head holding in a normal child starts at around five months but in this case it came at eight months. Normally children start rolling over at around six months, but he could not rollover because his one side was paralyzed. His supported
sitting and independent sitting started at twelve months and eighteen months respectively, which is again somewhat late as compared to a normal child. He had his crawling or quadruped position when he was two and a half years old. He started standing and walking independently at around four and five years respectively. Till the time of elicitation of data, he could not run and could only walk fast when excited. For him stairs climbing was difficult. He could only do so by holding the railing if it was on his left side because his right half was paralyzed.

(b) Speech and Language development:

Like motor developments, his speech development was also somewhat delayed. Babbling is said to be the very first step in language acquisition. Normally children start babbling between five to seven months, but case J started babbling at around one year, one word utterances came when he was two years old, two word sentences started at the age of three. At the age of eight years, at times his speech comprises of sentences having more than five words but sentences were simple and incomplete in terms of grammar.

5.4.1.1.2- LINGUISTIC STUDY OF THE CASE:

The case under study was a native Speaker of Hindi. He didn’t have much problem at the level of phonology, except with some
English words like:

<table>
<thead>
<tr>
<th>Actual Utterances</th>
<th>Correct form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) naːnem</td>
<td>mædəm</td>
<td>‘madam’</td>
</tr>
<tr>
<td>ii) ʈiːn</td>
<td>ʈren</td>
<td>‘train’</td>
</tr>
<tr>
<td>iii) umbelaː</td>
<td>umbrelaː</td>
<td>‘umbrella’</td>
</tr>
<tr>
<td>iv) piːČ</td>
<td>piːs</td>
<td>‘piece’</td>
</tr>
<tr>
<td>v) pɛčiː bɔks</td>
<td>pencil bɔks</td>
<td>‘pencil box’</td>
</tr>
<tr>
<td>vi) kuːl</td>
<td>iskuːl</td>
<td>‘school’</td>
</tr>
</tbody>
</table>

Some Hindi words like:

<table>
<thead>
<tr>
<th>Actual Utterances</th>
<th>Correct form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) čhe</td>
<td>se</td>
<td>‘from’</td>
</tr>
<tr>
<td>ii) čəb</td>
<td>səb</td>
<td>‘all’</td>
</tr>
<tr>
<td>iii) peno</td>
<td>pəhenna</td>
<td>‘to wear’</td>
</tr>
</tbody>
</table>

Thus it was observed that at phonological level he was changing /s/ to /ɕ/ and used to drop /r/ at word medial position. Otherwise his phonology was not much disturbed. But his speech was very much affected at the level of morphology and Syntax. For simple sentences he had no problem of comprehension, but at production level he could produce only simple
sentences and used to reduce longer sentences to small and simple forms. He simplified the sentences to the level that they appeared to be the telegraphic message which is the characteristic of Agrammatism, a subset of Broca’s Aphasia. Some of the salient features of his speech along with examples are:

(i) **He used to simplify the sentences in such a way that most of the time he changed them to imperative, for example:**

**Example- 1:**

(a) /gudà: bòd̪e a:o/  
   (The actual utterance)

(b) /gudà: ka: bòd̪h̪ey a:ega:/  
   (The correct form)

(c) ‘Gudda’s birthday will come’  
   (Gloss).

(Gudda was the nickname of case J).

**Example- 2:**

(a) /gho:r ja:o/  
   (The actual utterance)

(b) /mà:gho:r ja:ũ ga:/  
   (The correct form)

(c) ‘I will go home’  
   (Gloss).

The above statement was given by Case J when, once his mother came to school and he was crying to leave with her before the school was over, when some body asked him, /ghar ja ke kya karo ge/ ‘what will you do at home’ then he answered.

**Example- 3:**

(a) /so/  
   (The actual utterance)
(b) /souː: ga:/

(c) ‘I will sleep’

Example- 4:

(a) /pa:pa: ma:ro/

(b) /pa:pa: maːɾe ɡe /

(c) ‘papa will beat me’

Example- 5:

(a) /aːj nɔyaː ˈlaːnɛ bʊks laːo/

(b) /aːj maːɬ nɔyaː ˈlaːnɛ bʊks laːyaː hɯ: /

(c) ‘today I bought a new lunch box’

(ii) He used to change interrogative sentences to simple affirmative, for example:

Once he bought a new pencil box and he meant to ask his teacher, whether she would like to see that, then he expressed it in these words.

Example- 1:

(a) /aːj nɔyaː ˈpɛnɬiːbʊks laːo ɗeːkho?/

(b) /aːj maːɬ nɔyaː ˈpɛnɬiːbʊks laːyaː hɯ: ɗeːkho ɡi?/ (The correct form)

(c) ‘today I bought a new pencil box, would you like to see it?’

Example- 2:

(a) /naːnəm gudːa: ɐːɬaː bɔːɬa e? / (The actual utterance)
Example- 3:

(a) /bolo čęb guḍḍa:¿/?

(b) /kya: səb mujh se ba:t kərə ge¿/?

(c) 'will every body talk to me?'  

(iii) His speech had the abnormality of pronominal reversal. He used the third person form when ‘I’ was meant, for example:

Example- 1:

(a) /guḍḍa: peno a:ta: nai/

(b) /mujhe pəhehna: a:ta: nai/

(c) 'I don’t know how to wear'

Example- 2:

(a) /jəb na:nəm homwək de do təb guḍḍa bəɣ rəkho/ (The actual utterance).

(b) /jəb mədəm homwək dedə gi təb mə kepy bəɣ mə rəkh留住: ga:/ (The correct form).

(c) 'when teacher will give me homework, then I will keep the copy in bag'  

(Gloss).
Example- 3:

(a) /a:j guḍṭa: khu:b jula: hogọya / (The actual utterance)

(b) /a:j mæne xu:b jhu:la: jhu:la: / (The correct form).

(c) ‘today I had enough swing’ (Gloss).

Example- 4:

(a) /guḍṭa čolo / (The Actual utterance)

(b) /mæ jhu:la: jhu:lnę čału: ga: / (The correct form).

(c) ‘I will go along to have swing’ (Gloss).

(iv) His speech lacked postpositions and case markers, for example:

Example- 1:

(a) /pa:pa: bođe jhu:la: do/ (The actual utterance)

(b) /pa:pa: mere bođhɛy pɛr jhu:la: dɛ ge / (The correct form)

(c) ‘papa will give swing on my birthday’ (Gloss).

Example- 2:

(a) /buk bæg ho / (The actual utterance)

(b) /buk bæg mẽ hæ / (The correct form)

(c) ‘book is in the bag’ (Gloss).

Example- 3:

(a) /guḍṭa: ɔli:ɡɔr hreta: he / (The actual utterance)

(b) /mẽ ɔli:ɡɔr hẽ rahta: hu:/ (The correct form).
(c) ‘I live in Aligarh’ (Gloss).

**Example- 4:**

(a) / pēnči gudda: boks rākho/ (The actual utterance)

(b) / pencil māne boks mē rākhi thī/ (The correct form)

(c) ‘I kept the pencil in the box’ (Gloss).

**Example- 5:**

(a) / gudda: jūṭ bolo/ (The actual utterance)

(b) / mānē jhuṭ bola thā:/ (The correct form)

(c) ‘I told a lie’ (Gloss)

**Example- 6:**

(a) / buk bhāyya: ho/ (The actual utterance).

(b) / ye buk bhāyya: ki: hāe/ (The correct form).

(c) ‘This book belongs to my brother’ (Gloss).

In examples 1, 2, 3 & 4 the locative case markers /pər/ and /mē/ are missing & in example 5 & 6 the ergative case marker /ne/ and the possessive case marker /ki/ respectively are missing.

(v) Tense markers were also missing from his speech, for example:

**Example- 1:**

(a) / vo bhāyya: bāṭhō/ (The actual utterance).

(b) / vo bhāyya: yohā: bāṭhā: thā:/ (The correct form)
Example-2:

(a) /əb ja:o nāi /
(b) /əb pa:rk mē nāhī: jaːːː ga: /
(c) ‘now I will not go to the park’

Example-3:

When the elicitor asked him, why he didn’t come to school the day before, then he answered.

(a) /kāl gām hogīya: /
(b) /kāl buXa:r a:gīya: qha: /
(c) ‘yesterday I had fever’

Example-4:

When asked, with whom you played yesterday, his answer was:

(a) /koi chaːt nāi apu apu khelo /
(b) /kisiː ke sāːt nāhī: āpne ā:p khele the /
(c) ‘I played all alone’

Example-5:

(a) /guːḍːaː piːː khaː:o /
(b) /māː piːː khaːː rāːhāː hūː /
(c) ‘I am eating the French piece’
Example- 6:

/ kəl guďaː məmmy kuːl aː o / (The actual utterance)

/ kəl meriː məmmy iskuːl aː ě giː / (The correct form)

‘tomorrow my mother will come to school’ (Gloss).

In all the above utterances, with out knowing the context, it is impossible for a listener to make out the tense of the speech.

(vi) His Speech was also devoid of gender markers, for example:

Example- 1:

Once he misbehaved in the class, then his teacher scolded him and asked, why you did it?, then he retorted in this manner:

(a) / ab to roz/ (The actual utterance).

(b) / ab to roz karũ gaː/ (The correct form).

(c) ‘now I will do it every day’ (Gloss).

Example- 2:

(a) / vo jaː o/ (The actual utterance)

(b) / vo ləɾkːaː jaːɾʰəː hæ / (The correct form)

(c) ‘that boy is going’ (Gloss).

(vii) Plural markers were also missing from his speech, for example:

Example-1:

(a) / paːk kittaː jhuːlaː ho / (The actual utterance)
(b) /park mē kitne jhu:le hāe/ (The correct form)

(c) ‘there are so many swings in the park’ (Gloss).

(viii) His speech was also devoid of conjunctions, for example:

**Example-1:**

(a) /do na:m hāe ghō r guḍā: ku:l jān/ (The actual utterance)

(b) /mere do na:m hāe ghōr mē guḍā: ṭr isku:l mē jānt/ (The correct form)

(c) ‘I have two names at home gudda and at school Jayant’ (Gloss).

5.4.1.1.3- FINDINGS OF THE CASE STUDY: Agrammatism:

Case J had hemiplegic type of C.P on the basis of topographic classification because his right half of the body was effected and according to functional classification he was spastic because his right side muscles were permanently contracted and by going through the actual utterances of this case it was concluded that he had Agrammatic C.P, which is a common feature with people having spastic Cerebral Palsy. “the spastic does not present mastery of any of the grammatical categories in any comprehensive manner,” (Chengappa & Thirumalai, 2001; 45). He was bound to have agrammatism in some form or the other because his right half of the body was paralyzed, by this we get the clue that Case J had a problem in the left hemisphere of his brain, because human brain has contralateral pathways, the two hemispheres of the brain control the opposite sides of the body, “Strokes typically affect one side of the brain and produce paralysis of the side of the body opposite the affected side of the brain. Therefore if we know which side is paralyzed, we know that the brain damage is the cerebral hemisphere on the side opposite the paralysis.
People with left hemisphere strokes (right side paralysis) are much more likely to have serious language problems than are people with right-hemisphere (left-sided paralysis) strokes" (Morgan. et al., 1993:69). Thus the left half of the brain of Case J seems to be affected leading to agrammatism.

Agrammatism as the name suggests is going against the basic grammatical rules of a language. It is basically the inability to comprehend or produce grammatical utterances due to psycho physiological defects or other reasons. It is considered to be the characteristic symptom of Broca’s Aphasia, which is associated with damage to a particular area of the left cerebral hemisphere, identified as Broca’s area. According to a clinical definition, agrammatism in Broca’s Aphasics is modality specific, which means agrammatic errors are said to occur in one aspect only that is in language production with sentence comprehension unimpaired, but Andrew Radford and company have provided various examples from different experiments to show that their comprehension is also affected. At the production level, the language of agrammatic patients is such that their function words are affected such as articles, auxiliaries, complementisers and bound morphemes such as those marking tense and agreement, gender, case etc. It does not affect content words such as nouns, verbs, adjectives. “The agrammatic deviation occurs at the level of immediate constituents of a sentence, noun phrase and verb phrase” (Hecan and Albert: 1978), and contrasts between syntactic variants are suppressed. In this way, agrammatism differs from that variety of motor aphasia in which the deficit focuses primarily on phonetic productions, because in agrammatic patients the constituent morphemes may be produced with out error in spontaneous speech.
Hecan has divided the features of agrammatism into two main categories, these are- The poor utilization of syntactic rules and the preservation of lexemes but with the reduction of lexical stock. The linguistic economy of agrammatic is visible by the reduction of expressive speech in general and the reduction or dropping of grammatical function words in particular, agrammatism can also be divided in two clinically distinctive categories, these are- (i) Agrammatism involving the loss of relational and inflectional terms and fragmentation of grammatical structures. And (ii) Agrammatism involving problem with small grammatical terms and the disturbance of syntax by means of semantically irregular combination.

There can be given three main characteristics of agrammatism- reduction of sentences, loss of connection between grammatical coordination and subordination, and loss of grammatical function words. Thus in unity we can define the basic problem of agrammatism as an inability to use grammar and it can be understood as ‘grammatic deviation’ syndrome as against ‘phonetic deviation syndrome’ of motor aphasics.

But as a necessary condition, patients with agrammatism have reduction of spoken sentences. They reduce a sentence to the extent that it sometimes appears to be a telegraphic message rather than a speech. It has been generally observed that grammar of agrammatics is selectively impaired but the architecture of the system is identical to that of linguistically normal people. Hecan and Albert (1978) have divided Agrammatism into three categories. Viz:

“(i) Agrammatism with a morphological predominance.
(ii) Agrammatism with out major morphological disturbance but with marked syntactic defects and.

(iii) Pseudogrammatism with disprosody.” According to the above categorization case J had the type of Agrammatism which lies somewhere in between (i) and (ii) as discussed above.

The linguistic case study of the case presented in the section 5.4.2.1 had fragile X syndrome, thus, in order to under the case thoroughly it is essential to have a prior knowledge of this genetic disorder which is presented down below.

5.4.2- FRAGILE X-SYNDROME: A discussion

As is evident from the name, the patients having this syndrome have some weakness in their X chromosome, “Fragile X syndrome gets its name from the fact that the X chromosome of the affected individual will show a fragile spot when it is grown in a laboratory culture” (Sarason and Sarason: 2002; 528). As shown in the Fig 1.
In human beings there are twenty-three pairs of chromosomes, out of which twenty two pairs are somatic chromosomes and the twenty third pair is of sex chromosome, this twenty third pair determines the sex of an individual. The X chromosome is a member of the sex chromosome pair. Women have two X chromosomes and men have one X and one Y. If one of the mother’s X chromosome is affected by fragile X syndrome then she remains the carrier and doesn’t show the symptoms of the disease, but she may transmit the disease to her children because one of the sex chromosomes comes from each parent. If a boy has fragile X syndrome then it must have been transmitted through his mother because his X chromosome comes from his mother. Since girls have two X chromosomes one from each parent, so their chances of suffering from this syndrome are low. It has been observed that all the affected males and females who are the carriers of this syndrome are not equally affected. It is believed to be the second most common cause of
genetically associated mental deficiencies after Down’s syndrome. The overall frequency of its occurrence is slightly higher in United States than in other countries. Various studies have suggested that \( \frac{1}{3} \) of the males and \( \frac{2}{3} \) of the females who carry this syndrome lead a normal life. Those people who carry the fragile X gene and show no visible signs, carry a gene which is called a permutation gene, but when the gene passes to any of their children then it may mutate which means one set of gene component repeats itself many times. And the gene stretches in length. This increase continues from generation to generation, when the increase exceeds a threshold amount then fragile X syndrome and its accompanying mental retardation occurs. It is an inherited disorder and is present at birth.

Children having fragile X syndrome have an overall delayed motor and language development. After the first year of life their overdue and abnormal speech development is clearly noted. They generally have expressive language disorder and their receptive language is not much impaired. They have a short term memory and attempts at problem solving are impaired markedly. They have mild to severe mental retardation with IQs ranging from 20 to 70. They have various neurophysiological problems including depression. They may have autistic like behavior like poor eye contact, hand biting or hand flapping etc. The distinctive physical features of people with fragile X syndrome particularly men include a longer than usual face with ears typically large and protruding, they have facial asymmetry, a prominent forehead and jaw.
The speech and language of boys with fragile X syndrome may be characterized by imprecise articulation, a fast rate of speech and cluttering. Voice characteristics may include a loud volume with unusual high pitch and harshness. Their receptive vocabulary is stronger than expressive vocabulary, although their grammar and syntax is thought to be not much disturbed, but some cases when studied closely showed a disturbed syntax as well. At the level of phonology both vowels and consonants are reported as problematic to some and the substitution of sounds is common and sequencing of sounds within a word may be difficult for them.

5.4.2.1- “CASE N”

5.4.2.1.1- CASE HISTORY:

Case N was a fourteen years old boy at the time of elicitation of data. Both of his parents had done Bachelor of Arts, where father was a businessman and had a retail shop of medicine, while his mother was a house wife. He had three siblings one elder brother and two elder sisters, thus his birth order was fourth. He had a joint type of family structure, where his parents, grand parents and uncles all lived together. Financially he belonged to a middle class family with an approximate monthly income of Rs.6000. He didn’t have the family history of consanguinity and seizures. No case of mental retardation previously existed in his family.
(A)- BEHAVIOR OF THE CHILD FROM BIRTH TILL THE AGE OF
FOURTEEN:

(a) Baby’s presentation at the time of birth:

Case N cried one hour after birth. He had a fair body color, his birth
weight was 2.5 kg, the baby’s activity was normal. He had longer than usual
face, large ears and prominent forehead. These facial features are typical of
young adults with fragile X syndrome. He had no respiratory or sucking
problems. He caught jaundice after birth.

(b) Postnatal period:

In postnatal period he had no seizures and his weight gain was normal.

(B)- DEVELOPMENTAL MILESTONES:

(a) Motor developments:

By going through the history of Case N, as given in his school records
it was found that some of his motor developments started at the normal age
and some were delayed. He started smiling like a normal child at the age of
two months and rest of his motor developments was delayed. His head was
balanced when he was of seven months and started rolling over when he was
eight months old. His supported sitting was also overdue which came at
around fifteen months. His developments like independent sitting, crawling,
standing and walking independently were all tardy, which he acquired at the
age of twenty four months, thirty months, three years and three and a half
years respectively. Stairs climbing and kicking ball was learned by him at four years and six years correspondingly.

(b) Speech and language developments:

Attainment of speech and language was late in Case N. He started babbling at thirteen months which is contradictory to the normal age of approximately five to seven months. His one word utterances came when he was about twenty months old which is again late as compared to a normal child. He acquired two word sentences at the age of three and a half years. Now at the age of fourteen he could converse in simple and complete sentences having four or five words but his speech was not easily intelligible because his sentences lacked word-boundaries, which is a symptom of dynamic aphasia. He had such a fast rate of speech that he sometimes missed grammatical function words but Case N could not at all produce complex sentences. He had an acute kind of learning problem, in spite of the daily teaching he could not recognize the basic colors- red, yellow, green etc. He was much weak in academics, he couldn’t recognize A, B and C even after months of remembering and practice. He extremely avoided eye contact with people, he also had the problem of hand biting, the features which he shared with autistic children.

5.4.2.1.2- LINGUISTIC STUDY OF THE CASE:

A fast rate of speech is a common feature with boys having fragile X Syndrome. The speech of Case N was fast to the extant that it hinders the
intelligibility of listeners. He also finds difficulty in switching over from one set of words to another. He also had problem with word boundaries.

Some of the disordered features of the speech of case N are:

(i) Due to the very fast rate of speech, absence of word boundaries was a feature which was observed throughout the speech of this case, for example:

Example- 1:

(a) / mempɔipɛ /  
(The actual utterance)

(b) / mæm paːni: pilɛ /  
(The correct form)

(c) ‘madam may I drink water’  
(Gloss).

Example- 2:

(a) / memʃyɑː /  
(The actual utterance)

(b) / mæm a:jaːyaɛ /  
(The correct form).

(c) ‘madam may I come in’  
(Gloss).

Example- 3:

(a) / hmpɔtɛ /  
(The actual utterance)

(b) / hɔm pɔrhtɛ hɑɛ /  
(The correct form)

(c) ‘We study’  
(Gloss).

Example- 4:

(a) / mepɔmɛjɑɛ /  
(The actual utterance)
(b) /mæm paːkmẽ jaːʔ/  (The correct form)

(c) ‘madem can we go to the park’  (Gloss).

Example- 5:

(a) /bɔliːnaː bɔlɔliːnaː/  (The actual utterance)

(b) /baːl liaːnaː bɔllaː liaːnaː/  (The correct form).

(c) ‘bring the ball, bring the bat’  (Gloss).

Example- 6:

(a) /meɔkɔdekɔtɔbɔc mẽ/  (The Actual utterance)

(b) /mæm aːpko dekhaː thaː bɔs mẽ/  (The correct form)

(c) ‘madem I saw you in the bus’  (Gloss).

Example- 7:

(a) /mekepeke ɔiːo/  (The actual utterance)

(b) /mæm kæp pæhen ke aːi ho/  (The correct form)

(c) ‘madem today you have come wearing a cap’.  (Gloss).

Example- 8:

(a) /meutɔe/  (The actual utterance)

(b) /mæm ye kuttaː hæ/  (The correct form)

(c) ‘madem this is a dog’  (Gloss).
Example- 9:
(a) /mepa:tekəta:u/  (The actual utterance)
(b) /me pəra:the kha:ta: hũ:/  (The correct form)
(c) ‘I eat paratha (a kind of fried indian bread)’  (Gloss).

Example- 10:
(a) /bopa:pira:e/  (The actual utterance)
(b) /vo pa:ni pi rõha hæ/  (The correct form)
(c) ‘he is drinking water’  (Gloss).

Example- 11:
(a) /mehapəsəoi:/  (The actual utterance)
(b) /mæm gʰər pe a:o gi:/  (The correct form)
(c) ‘madem would you come to my home’  (Gloss).

(ii) He had an improper articulation of vowels and consonants, for example:

<table>
<thead>
<tr>
<th>Actual utterances</th>
<th>Correct form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) ber</td>
<td>bher</td>
<td>‘sheep’</td>
</tr>
<tr>
<td>ii) bɔč</td>
<td>bəs</td>
<td>‘bus’</td>
</tr>
<tr>
<td>iii) led</td>
<td>red</td>
<td>‘red’</td>
</tr>
<tr>
<td>iv) təl</td>
<td>kələr</td>
<td>‘color’</td>
</tr>
<tr>
<td>v) pəpu:ja:</td>
<td>pəpi:ta:</td>
<td>‘papaya’</td>
</tr>
<tr>
<td>vi) budia</td>
<td>bhutiyə</td>
<td>‘maize’</td>
</tr>
<tr>
<td>vii) pəsti</td>
<td>pəstry</td>
<td>‘pastry’</td>
</tr>
</tbody>
</table>
(iii) His speech had an improper arrangement of words in a sentence, when he was forced to speak at a slow rate, for example:

**Example- 1:**

(a) /sa:re əča: jā/  
   (The actual utterance)
(b) /sa:re ʃəhā se əčha: hindostā  həma:ra:/  
   (The correct form)
(c) ‘my India is best in the world ‘  
   (Gloss)

**Example- 2:**

(a) /me pa:pa: duka:n dəwə:i hæ/.  
   (The actual utterance)
(b) /mere pa:pa: ki: dəwə:i: ki: duka:n hæ/  
   (The correct form).
(c) ‘my father has a shop of medicine’  
   (Gloss).

**Example- 3:**

(a) /mepa:pa: əgəva:l hæ/  
   (The actual utterance)
(b) /mere pa:pa: ka: naːm ʃənjey əgərva:l hæ/  
   (The correct form).
(c) ‘my father’s name is Sanjay Agarval’  
   (Gloss).

**Example- 4:**

(a) /pesti pa:pa:ika:n e paːč mē/  
   (The actual utterance)
(b) /pa:pa: ki: duka:n ke paːs mē pesṭry milti: hæ/  
   (The correct form).
(c) ‘there is a shop of pastries near my father’s shop’  
   (Gloss).
Example- 5:

When the elicitor asked his address then he opened that page of his diary where his address was written with his photograph and said.

(a) /poṭuː likaː e/ (The actual utterance)

(b) /phoṭu ke niːce likh rehaː hæ/. (The correct form)

(c) ‘It is written under the photograph’ (Gloss).

5.4.2.1.3- FINDINGS OF THE CASE STUDY: Dynamic Aphasia.

By doing the linguistic case study of case N, it was found that features of his speech resembled the symptoms of Dynamic Aphasia. Dynamic Aphasia has been described as the selective impairment of verbal planning skills. According to Jacobson’s concept, in Dynamic Aphasia patients find difficulty in combining sentences. They also find difficulty in switching over from one set of words to another. They may also have a problem with word boundaries. In addition to these, the sentences of these Aphasics lacked postpositions, conjunctions and case markers when forced to speak at a slow rate.

5.5 CONCLUSION

The findings of the case studies of this chapter suggest that the sentences of children having any kind of mental retardation are simple and lack post positions, conjunctions, case markers etc and the findings of the cases experienced the two syntactic disorders- Agrammatism and Dynamic aphasia which were put to testing in hypothesis.