Man is a complex of biological, psychological and sociological factors. These comprise the total human person. In school we are dealing with the total individual. This means that these three factors have to be taken into account. Therefore the chapter is subdivided into three parts:

A] Biological basis of language.
B] Psychological basis of language.
C] Sociological basis of language.

[A] BIOLOGICAL BASIS OF LANGUAGE

Biology is the study of the life and structure of living things. It is a study of the physical aspects of the body.

The brain is the most important centre of the body and it controls all the different organs. This part of the chapter deals with the brain and the different organs of speech which are involved in language. Also the various kinds of language disorders which can take place if any part of the brain is damaged, injured or if the brain is not well developed.

1. Cerebral Dominance

The left hemisphere of the brain controls the language ability of most of the people. This localization of language in the left hemisphere is also
connected with the right or left handedness of a person. Michael. S. Gazzaniga\(^{(1)}\) says that the right and left halves of the brain control the opposite sides of the body. All the motor movements of the left side of the body are controlled by the right half of the brain and the right side of the body is controlled by the left half of the brain. Thus it is seen that the left hemisphere controls the handedness as well as the speech of a person. This shows that the left hemisphere is more dominant than the right hemisphere and this dominance of one hemisphere, that is, the left hemisphere is called cerebral dominance.

2. Organs of Speech

According to Leland. H. Stott \(^{(2)}\) the important organs which enable us to speak are the lungs, the bronchial tubes, the vocal folds and the glottis, the cavities of the throat particularly the larynx, the nose, the mouth, the hard and soft palates, the tongue, the teeth and the lips. When all these different parts or organs work together in proper co-ordination it produces speech.

Harry. R. Warfel \(^{(3)}\) explains that the muscles which are present in the upper half of the body help in the process of speech. First of all, the diaphragm pumps the lungs. The air from the lungs then passes through the windpipe. From the windpipe the air passes through the vocal cords. From here the air enters into the mouth and then there is movement of the tongue, jaws and lips. Different kinds of muscles work together in an integrative way to produce a sound or speech.

Edward Sapir \(^{(4)}\) mentions that audible speech can take place only because of the lungs and the bronchial tubes. The glottal cords which are
highly sensitive membranes are present in the larynx. The larynx consists of two large and several small cartilages and muscles which control the action of the cords. The glottal cords show three types of movements which are of great importance for speech. They can be either drawn towards each other, or they can vibrate like strings. According to the direction of their length they can also become lax or tense. As the glottal cords can vibrate like strings at different lengths, they are responsible for the variations in pitch. These variations in pitch are not only present in a song but are also present in ordinary speech. The two types of movements of the glottal cords tell us about the nature of the voice.

According to Norman. L. Munn the vocal cords add voice to whatever is said or spoken. Without the vocal cords also a person can speak but there is no sound. He can only whisper but no sound is produced. The lungs force the air up into the wind pipe. When the air is forced into the wind pipe the vocal cords vibrate. If the vocal cords are only a little apart or the opening is very small then they vibrate rapidly and tones of high pitch are produced. If the opening between the vocal cords is a little larger, then lower tones are produced. And if the opening between the vocal cords or glottis is very wide or well apart from each other there is only whispering. This condition also takes place when the larynx is removed due to some disease.

Michael S. Gazzaniga says that the different functions of the brain are carried out by the network of the cortical and sub-cortical interconnections in the brain. There may be various other sub systems within this network which take the information of a particular system and transform it to produce a particular function such as speech or language. If any of the sub systems
is destroyed or damaged then the information cannot be sent and that particular function will not take place. The French neurologist Pierre Paul Broca was the first person to make a correlation between language disorder and brain damage in the middle of the nineteenth century.

Michael D. Lemonick (7) says that scientists till now assumed that the brain processed language in the two areas, Broca’s area and Wernicke’s area. Broca’s area helps in the production of speech and Wernicke’s area helps in the understanding or comprehension of speech. According to Marvin Schwartz (8) Broca’s area is the motor cortex which controls the muscles of the lips, jaw, tongue, soft palate and vocal cords. It controls the activities of these muscles. Any kind of damage to Broca’s area causes slow speech but the comprehension of language is not lost and it is not affected. But any kind of damage or lesions in Wernicke’s area causes fluent speech but comprehension of language is affected. Both the cortical areas, Wernicke’s and Broca’s areas, are interconnected with each other. If there is any damage in the connections then also the speech and comprehension of speech is not affected but the person is unable to repeat the words.

3. Language Disorders

Language disorders can take place either due to cortical damage or due to damage to any of the organs of speech.

i) Language disorders due to cortical damage

Injury or damage to the brain or any part of the brain can cause various kinds of disorders or disabilities. It can either cause mental
retardation or disorders in language, speech or writing. Language
disorder is known as aphasia, reading disorder is known as dyslexia
and writing disability is known as agraphia.

a) Aphasia :-

Any kind of language disorder which takes place due to
cortical damage is called aphasia. According to Samuel A. Kirk\(^9\)
"The term aphasia has been used in its widest meaning to denote
an inability, caused by cerebral dysfunction, to communicate in
reading, writing or speaking or to receive meaning from spoken
or written words."

i) “Sensory aphasia or receptive aphasia refers to the loss
of the power to understand spoken words, signs, gestures
or print.”

ii) “Expressive aphasia means loss of the ability to speak or
even communicate to others through gestures.”

According to Lois Bloom and Margaret Lahey\(^10\) “the
traditional definition, one that concurs with the use of the
term aphasia with adults – specifies that the language
disorder is a result of dysfunction in the central nervous
system and can be described as receptive (a sensory or
auditory aphasia reflected in poor comprehension);
expressive (a motor aphasia suggesting a child who
understands but cannot talk); and mixed or global aphasia”.

The speech of the expressive aphasics is normal but they
may speak only a few words and use these few words to express all their ideas. Some aphasics do not use words such as articles, prepositions and conjunctions in their speech. This kind of speech is often called telegraphic speech as it is shortened. Some aphasics have difficulty in naming the objects. Such a person may use the word in a conversation but will be unable to use it in a particular situation.

b) Dyslexia

According to Samuel A. Kirk (11) “Dyslexia is commonly applied to a child's difficulty in learning to read.”

Lindsay Peer (12) education director of the British Dyslexia Association says,

Each of us have three memory systems, visual memory; audial memory and physiomotor memory. All dyslexic children have problems with one of the three memory systems. So, for example, a child who has a problem with audial memory will have a tremendous problem remembering dates in history or learning foreign languages. While one who has problems with physiomotor memory will find it difficult to copy a sentence from the blackboard.

Whereas a child who has problems with the visual memory is slow at reading and writing and makes a lot of spelling mistakes. The dyslexic child tends to reverse or invert letters and words. For example, the word 'was' will be read by them as 'saw'. Their reading skills lag behind.
Nowadays reading well with comprehension is very important because most of the students' studies in school depend upon his reading ability. Also if a child cannot read properly or if he is a poor reader, then he has many disadvantages. He may fail in school, he may not get a suitable job, his earnings will not be good and this may lead to dissatisfaction with society in later life.

c) Agraphia:

According to Samuel.A.Kirk “The inability to learn to write has been called agraphia. A child who has this condition can copy but cannot write spontaneously”

ii) Language disorders due to damage to the organs of speech.

Any kind of speech disorders which take place either due to damage to any of the organs of speech such as the tongue, lungs, vocal cords, larynx etc are called dysarthria. A person having dysarthric speech slurs, speech is also thick with a lot of disturbances in the timing and intonation of the speech.

The brain being the most important organ of the body controls all the different organs. The language ability of most of the people is controlled by the left hemisphere of the brain. Damage or injury to the brain or any other organs of speech can cause various kinds of language disorders like aphasia, dyslexia and agraphia.
1. Introduction

Psychology is the study of the mind and how it works. This part of the chapter deals with the mental characteristics of man and its influence on language.

Man has a definite advantage over all animals. Firstly, because of his highly developed brain which enables him to think and reason. Secondly, his thumb which is in opposition to his fingers gives him a better grip over objects. Thirdly, his ability to talk or use language. According to Harold W. Bernard the brain and the thumb-finger opposition are of great importance.

"But as a matter of practical concern to the student of educational psychology, little can be done about the brain or aside from practice, about thumb-finger opposition. A great deal can be done to facilitate growth in language and communication."

The book, 'Primer of Psychology' says that language not only consists of words but also takes into account gestures and grimaces. Gesture movements are of two kinds, one is the subjective gesture and the other is the objective gesture. The happy look or the angry look is a subjective gesture whereas threatening with the finger is an objective gesture. Facial expressions exhibited by man are all examples of subjective gestures. Man exhibits pleasure, fear and pain by facial expressions.

As our ancestors communicated more with gestures, the words which they pronounced must have been descriptive which complemented the gestures by imitating the sound which the object made. Earlier our ancestors made use of a lot of gestures along with their speech, but now articulate
speech has proved to be more useful than objective gesture. Development of language has automatically replaced gestures because of the following factors. Firstly, words being audible are more easily heard and recalled and are more permanent in nature. Secondly, while gestures have their own limitations, words do not. For every one word used there can be at least three synonyms. The word “good” can be described as wonderful, great, excellent, fantastic, nice and terrific, whereas a gesture can be limited to only an expansive movement of the limb. The spoken word thus has more importance and more value than a gesture. Thirdly, the same gesture done by two people can never convey the exact or the same meaning. Hence it would lose its meaning and the meaning could change. But in a spoken word the meaning is driven home more emphatically. The same word can be spoken by two people. Objective speech whose main function is communication of ideas and thoughts has gradually become very complex in the various languages of the civilised world.

Language in its various forms has helped mankind to know about the past and what will happen in the future. Language is an instrument which the teacher uses to bring about desirable changes in the child. It enables the teachers to do their work of communicating, interacting and working with the students. The thoughts, ideas and feelings of an individual can be communicated to others by means of language. Leland H. Stott says that speech is communication with the help of a highly evolved system of vocal sounds in an organised way. Communication between individuals is a two-way process of interaction and performs two main functions. The first function is of understanding the thoughts and feelings which are expressed by the others by using symbols. Speech also reveals the mental, emotional, intellectual and social well being of a person. In fact a man’s language,
every syllable he utters, the way he uses it, expresses his personality. The way an individual uses his speech is of great interest to research psychologists. "Verbal communication is the behavioural manifestation and expression of mental functioning at a rather high order. It can therefore be viewed in both its behaviouristic and its cognitive aspects" (16).

Language plays an important role in the adjustment of man to his environment. Many a time we fall into difficulties because of our inability to make ourselves clear to others. Also because of our inability to be more expressive. Paul S. Anderson (17) says that the most important things for a teacher are to communicate with the children and also to help the children to learn to communicate more effectively with others. He feels that many a time there are misunderstandings between the students and the teacher. These misunderstandings are caused due to the words used by them.

2. **Factors affecting the speech development of a child.**

i) **Influence of environment**

a) **Children staying in Orphanages**

The environment plays a very important role in the development of language. Goldfarb made a comparative and extensive study between two groups of children, those who spent their first few years in an institution and those who spent their first few years in orphanages. He found out that the language acquisition rate of the children of orphanages was very low in the early stages as well as in the adolescence period because of the environmental factors.
"Goldfarb concluded from his many years research that 'cultural deprivation' or absence of external stimulation resulted in a primitivization of an individual's behaviour i.e that it was less differentiated, showed a greater degree of aimlessness and in preponderance of trial and error, non-reflective activity^{18}\(^{18}\)

These children were not much exposed to their surroundings. They had no one to give them personal attention or guidance and did not have much interaction with each other. Thus their development of language was slow as compared to the other children who spent their first few years in an institution.

b) **Twins separated at birth.**

According to Samuel.A.Kirk another example which proves the importance of environment on the development of language is the development of speech in twin boys. Twin A physically normal and twin B crippled by club feet were separated as infants. B spent nearly 80 percent of his life in an army hospital and A remained at home. When B was 3½ years old he could not speak at all, but only grunted and made many gestures. But he was active and lively and could solve the most difficult puzzles. Whereas A could speak normally but he was quiet and could not do the simplest puzzles. These differences in the twins could be due to the environment in which they were brought up. The hospital people could not give B personal attention and talk to him more, but they found that he could be kept quiet by giving him puzzles to play with. They could not give him enough time to teach him to speak. So most of his time he spent playing with
and solving the puzzles. A on the other hand grew up at home and everyone spoke to him and he in turn learnt to speak normally. There was no need to give him puzzles to keep him quiet, so he could not solve the simplest of puzzles. Thus this shows that the environment has a tremendous influence on the language development of a child.

c) **Children in the company of younger and older children and adults.**

Arthur I. Gates et al\(^{(19)}\) say that children who are more in the company of other children specially older children and adults are at a greater advantage than children who interact more with children of their own age or younger to them. Even with twins who are more in the company of each other, their language development is less as compared to the other children who are single and spend more time in the company of other children and adults. Their language development is better.

According to the Encyclopedia of Education\(^{(20)}\) psychologists say that single children being more in the company of parents they converse more with them. Hence their speech is also superior. Children learn more in the company of other children but then also they learn faster if they learn from their parents. If the children speak inaccurately, parents correct them and show them the proper way to express themselves. Children also imitate their parents' speech and learn new words from them.
ii) **Interaction between parents and children.**

Another important factor which helps in the development of language is interaction between parents and children. Leland M. Stott\(^{(21)}\) says that homes where the parents provide good books to the children to read, have frequent conversations with them, tell them stories and where there is more interaction with the child and parents, those children were found to be better developed in their language than those children who had less interaction with parents.

Milner\(^{(22)}\) tried to show that the interaction between parents and children is an important factor in the development of language by using linguistic tests similar to reading readiness tests. She found that those children who scored higher usually had their meals together and had more conversations with each other. Whereas those children who scored less had very little interaction with their parents.

Thus it is seen that wherever parents and children spend quality time together, where obvious interest is taken in a child's growth, activity, school, play, friends that child scores higher than a child who has less or no interaction with parents.

According to the Encyclopaedia of Education\(^{(23)}\) parental speech also plays an important role in the development of language. Expansions of the speech can be used by the adults or parents to teach their children the proper way to speak or express their ideas. For example, a child may say, "Mummy, go market", and his mother can correct him by expanding the sentence and reply, "Yes, Mummy will go to the market". Or the child may say, "What father will eat?" and
the parent can reply, “What will father eat?”. It is observed that parents of middle class children expand more than the working-class children. It has also been found out that children while imitating their parents’ speech not only learn the proper way of expressing their ideas but also learn new words and certain grammatical aspects of language. Courtney B Cazden\(^{(24)}\) says that one of the most important roles or duties of adults or parents is to correct the speech of the child when he is wrong and by giving him reinforcement when he is correct.

iii) Mental development and growth of a child.

Speech is also closely connected with the process of mental development and the growth of a child. Even in the case of retarded children their achievement is substantially lower than normal children. Ashby and Dandy as quoted by T.N.Kelynack says that “having examined some five hundred dull or mentally feeble children they found than 19 percent had well-marked speech defects and a further 7.8 percent showed minor ones\(^{(25)}\).

T.N.Kelynack\(^{(26)}\) says that a mentally deficient baby takes a longer time to babble and speak. And once he learns to speak, then the baby speech remains in the child for a longer time period.

S.R.Jayaswal\(^{(27)}\) says that a child who is bright may learn to speak at least four months earlier than an average child. And a mentally retarded child may be at least three years behind the other normal children in his speech development. This shows that the intelligence factor also plays an important role in the development of speech.
If the rate of growth is more then the development of speech is also more. Whereas children whose growth rate is slow have their speech development also slow.

iv) Other factors affecting the development of Speech.

According to S.R. Jayaswal the sex factor also influences the development of speech. Girls are found to speak earlier than boys. And the development of speech in girls is also better than boys. Girls are also found to use or construct longer sentences earlier than boys. But the girls are found to be superior in speech only upto maturity. But after that the boys are found to do better than the girls in the development of speech.

As a person’s needs become more specific his language evolves from the initial grunts and grimaces and takes the form of more complicated modes of expression.

However, this does not happen as a matter of course. There are factors that inhibit the development of language. For instance, a rich environment greatly helps to activate a wider pattern of speech which a poor environment will not; a handicapped child is less likely to articulate his feelings properly than a normal child, while the milieu in which a working class child finds himself, is less conducive to language ability than a child from a better socio-economic background.

And since the growth of intelligence draws largely on language ability, the importance of language becomes loud and clear.
Sociology being the study of human society this part of the chapter deals with the relationship between society and language.

1. **Origin Of Language**

There are many interesting theories about the origin of language. R.K. Yadav says that some believed that language was not invented by man, but it was a direct gift from God.

*The divine origin of language engendered the belief that a particular speech was the language used by the Gods. People would regard their speech only (e.g. Sanskrit or Greek), as the correct way of speaking. Those who used other languages made meaningless noises and were barbarians.*

However, The Britannica Junior Encyclopaedia mentions that the actual origin of language is not yet known. Many guesses have been made about it. It is believed by linguists that language must have originated many years ago as men have been living together for millions of years. Thousands of languages are known to exist now. Out of these languages some are spoken by people while some have been discarded. Egyptian which is one of the oldest languages, is no longer spoken. The most commonly used language in the world today is English. It is an international and a link language spoken by millions of people.

According to Lehmann, many of the languages which are spoken today have originated from a common ancestor language. The ancestor language began with small groups of people in the beginning. In time, as these groups multiplied finding food insufficient for them, they migrated to
new places. From these migrations evolved new languages, yet descendants of the original ancestral language. For example, English, French, German, Italian, Greek are all members of the Indo European family of languages.

Compare for example the words for 'hay' and 'fork'


'Fork' = French – Fourche, Italian – forca, Spanish – horca, Rumanian – furca."

The words 'hay' and 'fork' in these different languages are almost similar and this shows that these languages could have originated from a common ancestor language.

It is also assumed that English, Latin, Greek and Sanskrit have also all developed from a common ancestor language. This is shown by the numerals 'two' and 'three'.


'three' – English – three, Latin – trēs, " Greek – treīς and Sanskrit – ṭrayas

Among the Indian languages Sanskrit is taken to be the ancestor or parent language and from it have originated other languages like Tamil, Malayalam, etc. According to Ram Gopal most of the Indian languages have borrowed a lot of words from Sanskrit.

Most Indian languages owe their present richness to Sanskrit; they were poor in their original form and they borrowed freely from Sanskrit. Until about a hundred years ago, many of the Indian Languages, which now possess some kind of literature, were largely employed for oral communication.
The Encyclopaedia Britannica\(^{(33)}\) mentions that gradually as the people came in contact with more people there were changes in the language or because there were changes in the vocabulary — old words were discarded and new words were added. Every person learns a language a little differently. Even when the language is transmitted from one generation to another there are changes in it. And slowly the language becomes different and more sophisticated than what it was.

2. **The Growth of language at home.**

Francis J. DiVesta\(^{(34)}\) says that the development of language in humans takes place gradually. It begins with the initial grunts, groans and cries of the new born infant. The cries of a one-month old child shows variation in pitch. It is with the help of these cries that the child tries to communicate and draw the attention of his mother and others around him. It is through these cries that the child tries to tell them that he is hungry, or not well or he wants to be picked up. The babbling period starts from the second month and continues for the next few months. By the sixth month the child produces a variety of sounds while babbling but nothing meaningful. The child tries to imitate his own noises and enjoys doing so. He then learns to imitate some of the words he hears from the adults around him. The child soon starts speaking single words. They usually start with ‘Mama’ or ‘Papa’ or ‘dada’. The child may use a single word to express a variety of things. For example, when the child says ‘milk’ he may either mean ‘He is hungry’ or ‘He wants more milk’, or when the child says ‘Bed’ he may either mean ‘This is a bed’ or ‘He is feeling sleepy’ or ‘He wants to sit on the bed.’ Single words are then followed by two or three words. The child’s sentences also become more complex like ‘Drink milk’ or ‘Go out’.
According to Encyclopaedia Britannica (35) by the second year the language of the child develops a great deal. And he can form two and even three word phrases. By the time the child is two and a half years old there is an increase in the child’s vocabulary. The child can now speak simple sentences with three to four words very easily. At this age he keeps on repeating what he hears and he is corrected by the adults around him. By the age of three to three and a half years he can articulate well formed sentences but still he may not be able to construct grammatically correct sentences. Thus from simple sentences the child slowly graduates to well formed and complex sentences. And this development of language continues as the child grows up. As there is a close interaction between the parent and child the speech of the parent plays a very important role in the growth of the child’s language.

3. The growth of Language in society

The growth of language takes place as the need for communication increases. A person needs language when he meets other people to communicate and interact with them. In our daily life we use language for communication with others and for expressing our ideas and thoughts. Even children in order to express themselves to their parents, to other adults and to their friends, make use of language. A child in school uses language for communicating with his teachers and other students. Language enables man to think.

*Language structures our thinking processes. All human beings think in one language or another (English, Hindi, Greek, Swahili, whatever). Perhaps if we didn’t have a language we may not have been able to think at all. Through language we make sense out of the world and crystallise our experiences.* (36)
If society has to grow, language is very essential. We can preserve our knowledge through language. "Both Aristotle and Hobbs, for instance, recognized that the existence of language was basic to the entire fabric of a society and that it provided the means for the creation of the social control" (37)

Sophisticated speech is special only to man and it is this that differentiates man from animals. This speech has enabled him to know what is good and what is evil, what is just and unjust.

It is language which enables a child to learn how to behave in society with his elders, with his friends and how to interact with the other members of society. Thus it helps him to socialize with others in a society. In the process of socializing he learns to play the different roles which are expected from him.

Language also helps in developing social relationships. For example, two students standing at the bus stop for the bus start talking in order to pass their time. It is very embarrassing to stand there all alone with someone whom we do not know and not speak to him. By talking to the other student about some topic like, "Where are you staying? Which college are you studying in? What subjects have you taken?", it is possible to have a relationship with the other person. It also helps students to get certain information about the other which helps also to pass the time more profitably. Language not only helps in developing relationships with people but also helps to transfer information between people. This shows that language and society are very closely related.

Leland H. Stott (38) says that there is a clear relationship between a family’s social class and the language development of their children.
Language is one of the factors that differentiates a working class child from a middle class child.

According to Denis Lawton, the language of a working class child is less developed than a middle class child. Working class parents may be themselves less communicative because they may be less educated. Having acquired working skills which was a compulsion for them, their vocabulary may be limited. Children of such parents also grow up with such limited vocabulary. The working class parents themselves having a limited vocabulary do not inculcate the value of learning language to the child. Subsequently the language skills would not rate very high in the scale of criteria which would be responsible for the child's advancement in life. More stress is given to the acquisition of working skills than to the acquisition of language skills. Middle class parents themselves being educated take more interest in the development and education of their child.

Bernstein as quoted by Leland H. Stott compared the performances of teenage boys from middle-class families and lower working class families of England on two types of intelligence tests, a verbal test and a non-verbal test. He found that in the language test 58 out of 61 working class boys had IQ's within the average range (90-110). And the other three boys scored below 90. In the non-verbal test, 36 of the 61 boys had IQ's of 110 or above whereas all the 45 middle class boys had IQ's of 100 or above in both the language and the non-language test. The mean scores on the nonverbal test for the middle class was 51.4 and the working class 41.36. In the language test for the middle class it was 60.2 and for the working class 41.9. There was a marked difference of 18.3 between the middle class boys and the working class boys.
This shows that in working class families not much emphasis is given on language to be developed. Possibly because parents themselves do not take pains to encourage the correct language development of their children. Also children learn the same kind of attitudes, values and speech habits of the culture and society where they grow up.

The values of a society also find a place in the current use of language. The language spoken often speaks volumes about a person. The language punctuated with immoral words and invectives is always a taboo in a civilized society. A language is said to be good or bad on the frequency of use or disuse of the taboo words. A language of love and affection finds universal acceptance whereas a language of scorn is universally abhorred. The proper or improper use of language can often mould our opinion of others.

In the same way as the development of language in a child from the primitive to more sophisticated, was a matter of time, in a similar way, languages too derived their sophistication over a period of time. While no one is certain whether there was one ancestor language from which the others were derived, a distinct relationship between groups of languages does exist.

However, it is language that has influenced the cultivation of values or even given nuances of meaning to different situations.
REFERENCES


6. Gazzaniga, op.cit., 135


15. Stott, op.cit., 227

16. Ibid.


21. Stott, op.cit., 239

22. Lawton, op.cit., 26

23. Deighton, loc. cit.


26. Ibid.

28. Ibid., p. 106.


38. Stott, op.cit.,239

39. Lawton, op.cit., 81

40. Stott, loc. cit.