BLOCK-01

Comparative Linguistics

Block Content

Unit : 1 India's Contribution to Linguistics

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- explain the classification of languages.
- define the basic concepts of linguistics.
- discuss the evolution of Sanskrit language.

Background

Language is the mode of expression of thought through articulate sounds and is an integral part of the human organism. Sanskrit is an ancient Indo-European language, historically significant and rich in structure. The fundamental aim of language is communication. In ancient India, Sanskrit linguistics encompassing phonetics and morphology, evolved into a sophisticated system. Sanskrit has had a profound influence on many languages across South Asia, Southeast Asia, and East Asia, particularly in their formal and scholarly vocabularies. Indian linguists made substantial contributions to the development of Sanskrit. Yāska's major work, *Nirukta*, is the oldest known treatise on etymology in Sanskrit grammar. Pāṇini is regarded as the founder of a scientific and systematic approach to grammar; his work, the *Aṣṭādhyāyī*, is considered by modern linguists to be the most complete and logically structured grammar of any language. Patañjali's *Mahābhāṣya* is an extensive and critical commentary on Pāṇini's *Aṣṭādhyāyī*. His work is highly significant for Paninian linguistics, as it established the tradition of elaborate commentary in Sanskrit literature.

Keywords

Comparative philology, Linguistics, structure, Indo-European, Semitic, Indo-Aryan, Dravidian, Phonology, Morphology, Syntax, Semantics, Nirukta, Etymology, Ashtadhyayi

Discussion

Sanskrit is an ancient Indo-European language of South Asia. It is one of the oldest languages in the world and is considered the mother of many languages, particularly those in the Indo-Aryan branch.

"इदमन्धं तमः कृत्स्नं जायेत भुवनत्रयम् ।

यदि शब्दाह्वयं ज्योतिरासंसारं न दीप्यते"।।

All the three worlds would be enveloped in blinding darkness if the brilliant light called language does not shine eternally- said आचार्य दण्डी of his work काव्यादर्शम्।

In ancient times, the study of language was pursued mainly through the discipline of grammar. As humans came into contact with new communities and encountered unfamiliar tongues, the need arose to study and compare different languages. The discovery of structural resemblances among groups of languages revealed their common ancestry, giving rise to the comparative and historical study of languages. In mythological times, linguistics was considered a branch of grammar, but during the nineteenth century, European scholars, especially after the discovery of Sanskrit and its highly scientific grammar, began to develop it into a separate field. This discipline, concerned with the systematic comparison of languages to trace their historical relationships, came to be known as comparative grammar or comparative philology. The word philology itself refers to the scientific study of the structure, history, and development of languages. Today, however, modern scholars generally prefer the broader and more precise term linguistics.

- Language gave rise to the comparative and historical study of languages

Comparative language study deals with identifying similarities in sounds, word formation, and sentence structure across different languages. The historical method, on the other hand, traces the growth and development of a single language through its various stages. Languages such as Sanskrit, Persian, Greek, Latin, Celtic, Teutonic, Slavonic, and Armenian exhibit notable similarities in grammar and vocabulary, suggesting a common linguistic ancestry. Similarly, languages like Hebrew, Assyrian, Arabic, and Syriac form a distinct group known as the Semitic family. The South Indian languages, Tamil, Telugu, Kannada, and Malayalam, also share many features and belong to the Dravidian language family. A comparative study of these languages enables linguists to classify them into distinct language families such as Indo-European, Semitic, and Dravidian. Other language groups include the Bantu languages of Africa, the Mongolic languages, the Uralic languages (including Finnish), and

- The comparative Language deals with similarities in sounds, in word-building, in sentence structure

various indigenous languages of South America. Comparative linguistics examine multiple aspects such as pronunciation, sentence construction, and phrase usage across languages, while the historical approach focuses on the internal development of a single language over time.

Some of the important definitions of language given by different thinkers -

- Definitions of language given by different authors

According to Bloomfield, the totality of utterances that can be made within a speech community constitutes the language of that community. This definition emphasizes the actual spoken or produced utterances of a particular language, as used by its native speakers. In this view, language is not merely a set of abstract rules but a living, dynamic system expressed through the real-time speech of individuals within a community.

For Aristotle, language is composed of speech sounds produced by human beings to express their ideas, emotions, thoughts, desires, and feelings, in other words, it is sound that constitutes language.

Saussure, on the other hand, defines language as a system of signs constituted by the *signifier* (the sound or form) and the *signified* (the concept). He asserts that there is no natural relationship between a word and what it designates; the link between objects and expressions is arbitrary.

According to the *Encyclopedia Britannica*, language is a system of conventional spoken or written symbols through which human beings, as members of social groups and participants in a culture, communicate.

Aldous Huxley aptly remarked, "Language is the medium in which we live and move, and have about fifty per cent of our being." Every sentence or word by which we express our ideas carries both a definite form and, more or less, a definite meaning. When we utter a word, we are not merely producing a sound; we are also conveying a mental process that involves organising and expressing thought. These physical (phonetic) and psychical (mental) elements are inseparable in speech. Hence, it is said that the connection between word and meaning is inherent: "औत्पत्तिकस्तु शब्दस्यार्थेन संबन्धः" "वागर्थाविव संपृक्तौ", the word and its meaning are united like speech and its sense.

Aim and Object of the Comparative Philology

The aim and object of Comparative Philology is to study the similarities in the vocabulary and structure of a particular group of lan-

guages. It focuses on the grammar of a language at different stages, encompassing both past and present forms. Comparative Philology also deals with various phenomena of speech, such as the production of sounds, their combination into syllables, the formation of syllables into words, and the construction of words into sentences. Thus, philology is the scientific study of language, both comparative and historical in nature. The comparison of languages like Sanskrit, Greek, and Latin is essentially an extension of the historical investigation of a single language through its successive stages of development.

- Aim and object of the Comparative Philology

According to Whitney, "Our science strives to comprehend language both in its unity as the means of human expression and as distinguished from brute communication, and in its internal variety of material and structure. It seeks to discover the cause of the resemblances and differences of languages and to effect a classification of them by tracing out the lines of resemblance and drawing the limits of difference." In ancient India, Sanskrit linguistics encompasses the study of the Sanskrit language, including its phonetics, morphology, syntax, and semantics. This field explores the structure and evolution of Sanskrit, its connections with other languages, and its significant role in understanding broader linguistic principles.

The Indian linguist Yaska, believed to have lived in the 5th or 6th century B.C., preceded Panini and is credited with the treatise *Nirukta*, the only surviving ancient Indian work on etymology. While earlier etymologists held that nouns were derived from verbal roots, Yaska introduced the idea that action is a process and emphasised that etymology should work hand in hand with grammar. He stressed the importance of context in explaining the meaning and etymology of words, noting that the same word could be interpreted differently depending on the context. Yaska classified Sanskrit words into four parts of speech: nouns, verbs, prepositions, and particles. Together with Panini, whose comprehensive grammar laid the foundation for Sanskrit linguistics, Yaska significantly shaped the field. Sanskrit linguistics also encompasses philosophical and cultural dimensions, such as the relationship between sound and meaning and the role of language in shaping thought.

- Sanskrit linguistics also explores philosophical and cultural aspects related to language

Panini was the founder of a scientific system of grammar. His grammar seeks to provide a complete, maximally concise and theoretically consistent analysis of Sanskrit grammatical structure. His grammar is considered, by modern linguists, as the most complete grammar of any language yet written and is considered the foundation of all traditional and modern analysis of Sanskrit grammar. It is based on the spoken language of his time and gives rules on Vedic usage and spiritual variants. It is, entirely, synchronic and consists of 4 components:

- Panini's grammar work, Ashtadhyayi, provides a comprehensive and systematic analysis of Sanskrit's structure

Panini's grammar consists of four main components:

- ***Ashtādhyāyi***, meaning "eight chapters," comprises 3,959 sutras (rules) and is considered a complete descriptive grammar of the Sanskrit language.
- **Sivasutras** is an inventory of phonological segments, organized by markers to allow abbreviations for classes of sounds.
- **Dhatupatha** is a list of about 2,000 verbal roots, with subclassifications and diacritic markers (marks placed over, under, or through a letter to indicate a different sound value), encoding their morphological and syntactic properties.
- **Ganapatha** is an inventory of lexical items that are subject to various specific grammatical rules.

Panini's *Ashtādhyāyi* is a foundational text that provides a detailed and systematic analysis of Sanskrit grammar and is considered one of the most complete grammars of any language. His work is renowned for its comprehensive and structured approach to the language's phonetics, morphology, and syntax. Sanskrit linguistics, exemplified by Panini's rigorous grammar, encompasses the study of sounds, word formation, and sentence structure with concepts that remain relevant in modern linguistics. Indian grammarians developed sophisticated ideas such as *karaka* (semantic roles), *samasa* (compound formation), and the sphota theory (the principle of linguistic meaning), while early scholars like Yaska laid the groundwork in etymology and parts of speech. Panini's grammar served as a model for both descriptive and generative linguistic approaches, deeply influencing subsequent studies of language. Patanjali's *Mahabhasya* is an extensive, technical discussion on Panini's *Ashtadhyayi* and Katyayana's *Vartikas* (brief explanatory notes), analyzing the reasoning behind grammatical rules rather than commenting on every sutra. Patanjali's work established the commentarial style in Sanskrit literature and introduced numerous technical terms, methodologies, and philosophical discussions that shaped later scholarship. Chronologically following them, Bhartrhari made significant contributions to the Paninian tradition, identifying the speech principle with Brahman and asserting language as the key to knowledge. He emphasized the sentence as the basic unit of communication and authored influential works like the *Vakyapadiya*, on grammar and linguistic philosophy, and the Satakatraya, a collection of Sanskrit poetry. Bhartrhari's integrated approach to grammar and poetry had a profound and lasting impact on both fields, surpassing earlier works in scope and depth.

India has a rich linguistic tradition that has profoundly influenced the study of language, particularly through its ancient grammarians and the focused study of Sanskrit. Panini's Ashtadhyayi is a landmark work in Sanskrit grammar, serving as a foundational model for language description. Indian linguistics, especially through Panini and his predecessors like Yaska, laid the groundwork for the scientific study of language, impacting modern fields such as descriptive and generative grammar. Yaska's *Nirukta* is the oldest surviving treatise on etymology in Sanskrit grammar, and he categorized Sanskrit words into four parts of speech: nouns, verbs, prepositions, and particles. Additionally, Bhartrhari's *Sphota* theory offers a profound explanation of linguistic meaning, emphasizing the unity between the word and its understood concept.

Indian linguistics also encompasses the study of other Indian languages and their diverse features. Panini was the founder of a scientific system of grammar, and his work laid the foundation for linguistic analysis in India. Linguistics, in general, is the scientific study of language. It involves the exploration of the structure, development, and nature of language. The term "linguistics" is derived from the Latin word *lingua* meaning "tongue," and the suffix *-istics* meaning "knowledge." Linguists investigate various aspects of language, including its sounds (phonetics and phonology), its structure (morphology and syntax), and its meaning (semantics).

- Definition and root form of Linguistics

Sanskrit (/ˈsænskrɪt/; stem form संस्कृत; nominal singular संस्कृतम् *saṃskṛtam*) is a classical language belonging to the Indo-Aryan branch of the Indo-European family of languages.

Core areas or divisions of Linguistics

- Phonetics: The study of the physical properties of speech sounds.
- Phonology: The study of how speech sounds are organized and used in a particular language. (शब्दोत्पत्तिविपरिणामप्रकारविचारः)
- Morphology: The study of word formation, including how morphemes (the smallest units of meaning) combine to form words. (पदनिष्पत्तिप्रकारविचारः)

- Main branches or divisions of comparative philology

- Syntax: The study of sentence structure and how words are combined to form grammatical sentences. (वाक्यरचनाप्रकारविचारः)
- Semantics: The study of meaning in language. (अर्थविपरिणामप्रकारविचारः)

The native languages of the Indian subcontinent have been divided into various language families, of which Indo-Aryan and Dravidian are the two most widely spoken.

Summarised Overview

Language makes use of symbols, words, and gestures through which meaning is communicated. The fundamental aim of language is communication through spoken or written symbols. Thinkers such as Bloomfield, Aristotle, Saussure, and Aldous Huxley have given us different definitions of language.

The study of languages gave rise to comparative and historical approaches. Comparative language study deals with similarities in sounds, word-building, and sentence structure, while the historical method traces the growth and development of a single language through its various stages. Linguistics can be defined as the study of the structure, development, and nature of language. It has four main divisions: phonology, morphology, syntax, and semantics.

The aim and object of Comparative Philology is the study of the similarities in the vocabulary and structure among a particular group of languages. Philology is the science of language, which is both comparative and historical. The study of Sanskrit sounds and their articulation is a significant area within Sanskrit linguistics.

Assignment

1. What is the importance of Panini's Ashtadhyayi in the study of Sanskrit linguistics?
2. What is the significance of the Sanskrit language in the study of linguistics?
3. What are the main branches of linguistics, and what does each branch study?
4. What are the major language families of the Indian subcontinent?
5. How did the discovery of Sanskrit contribute to the development of comparative philology?
6. Who are some important figures in the study of Sanskrit linguistics, and what were their contributions?
7. How did Indian grammarians like Yaska contribute in the field of linguistics?
8. What is the Sphota theory, and how does it explain the nature of linguistic meaning?
9. How do different thinkers define language, and what are the key features of each definition?
10. What is the relationship between language and thought, according to Indian linguistic traditions?
11. How does the study of linguistics help us to understand the structure, development, and nature of language?

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Suggested Reading

1. Narayana Murthi, Sriman. *An Introduction to Sanskrit Linguistics- Comparative and Historical,* D.K. Publishers, Delhi, 1984.
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4. Bloomfield, Leonard. *Language*. Henry Holt and Company, 1933

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

Unit : 2 Indo-European Family

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- identify the Indo-European family of Languages.
- discuss the classification of Languages.
- recall the basic concepts of linguistics.

Background

Language is the mode of expression of thought by means of articulate sounds. Language is an essential part of human organism. According to Aldous Huxley "Language is the medium we live and move, and have about fifty percent of our being". In the early stages of the development of language, ideas must have been expressed through a combination of gesture and sound. Sanskrit belongs to the same language family as Greek, Latin, and other Indo-European languages.

Keywords

Indo- European Languages, Suffix inflexion, synthetic, inflexional, Monosyllabic roots, syntactical prefixes, juxta-position, Vowel Gradation, Reduplication

Discussion

Classification of Languages

1.2.1 Genealogical or Historical Classification

The classification of languages into families based on their material of expression is called genealogical classification. Certain languages are related to one another because they share common material such as words, roots, and formative elements. Languages

that possess such common features and follow similar methods of expression can often be traced back to a common ancestor.

For instance, the obvious similarity among the Aryan languages of India,such as Hindi, Marathi, Bengali, and Punjabi,points to a common parent language, often termed Primitive Aryan. Similarly, English, German, Danish, and Dutch can be traced to a common ancestor known as Primitive Germanic, while French, Italian, and Spanish derive from Latin. Going further back, these ancestral languages can themselves be traced to a still more ancient common source known as Primitive Indo-Germanic or Primitive Indo-European. All the languages that branched out from this great ancestor are regarded as members of a single large family called the Indo-European (or Indo-Germanic) family.

It must be remembered that the parent languages identified in such classifications are hypothetical reconstructions, arrived at by linguistic comparison and analysis, rather than historically attested languages.

Through this process, the languages of the world can be grouped into a number of major families. Some of the most important are:

(1) Indo-European or Indo-Germanic.

(2) Semitic- (Hebrew, Arabic, Syrian, Assyrian etc).

(3) Dravidian-(Tamil, Telugu, Kannada and Malayalam).

(4) Bantu- (South African Languages).

(5) Ural Altaic.

(6) Malayo Polynesian.

- Languages of the world can be grouped into a large number of families

Sanskrit is an ancient Indo-European language; specifically Vedic Sanskrit is the oldest dialect of the Indo-Aryan branch. It is considered the sacred language of Hinduism and a significant language in Buddhism and Jainism. Sanskrit has two main forms: Vedic Sanskrit (used in the Vedas) and Classical Sanskrit (developed later for literary use).

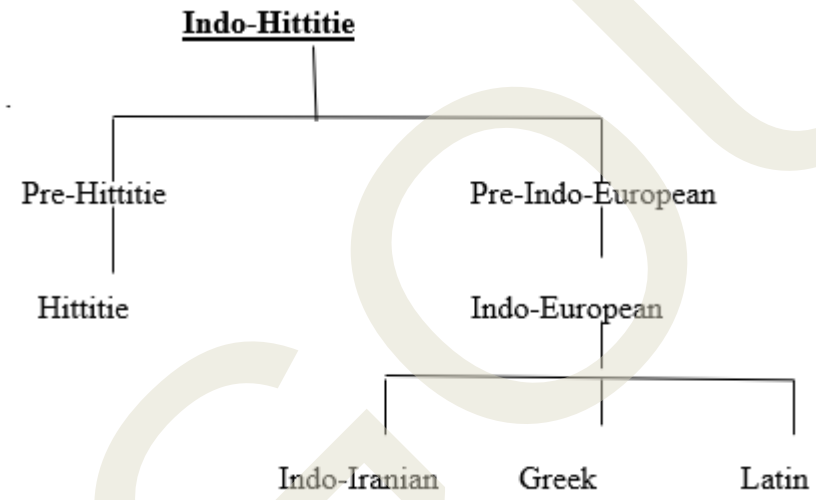
Indo-European family has several groups of languages. They are –

1. Aryan or Indo Iranian. This includes Sanskrit, Avestan, and Prakrits etc.
2. Armenian
3. Greek. This includes. Ionic, Attic, Doric etc.
4. Albanian

- Indo-European family has several groups of languages

5. Italic. This includes Latin, Oskam, and French etc.
6. Germanic. This includes Gothic, Danish, Sweedish, Anglo-Saxon etc.
7. Balto-Salvonic. This includes old Prussion, Lithunian, Russion, Lettic, Bulgarian, Slovakian etc.
8. Celtic. This includes Irish and Scotish.
9. Tokherian.
10. Hittite.

Hittitie as a sister languages of the Primitive Indo-European and their relationship is indicated as follows-



It is possible that Hittitie separated from the primitive Indo-European much earlier than other members of the Indo-European family.

The Indo-European language family, which consists of the ten groups of languages mentioned above, is known by several names such as Aryan, Indo-Germanic, Indo-European, and Indo-Celtic. The Sanskrit word Aryan was originally restricted to the oldest branch of this family, namely the Indo-Iranian languages. The term Indo-Germanic was coined because the Indian languages in the east and the Germanic languages in the west marked the geographical boundaries of this family. When Celtic was recognized as a member of this family, some scholars proposed the name Indo-Celtic. Most scholars prefer the name Indo-European, but the Germans have retained the older term Indo-Germanic. Even the name Indo-European is not entirely appropriate since many languages spoken in Europe and India do not belong to this family, while some languages spoken outside India and Europe, such as Hittite, are members of this family.

- The above ten groups of languages consisting of Aryan, Indo-Germanic, Indo-European, Indo-Celtic etc

Criteria to determine the membership of Indo-European family

The following four points to determine whether a particular language belongs to the Indo-European family-

1. Common Roots or Stems (धातु and प्रातिपदिकम):

The roots or stems of the language must be the same as those found in other Indo-European languages.

Example: Sanskrit bharāmi, Greek phero, English bear - the correspondence of initial sounds (Eng. b, Gk. ph, Skt. bh) follows regular phonetic changes in each language.

2. Formation of Nouns, Verbs, and Other Parts of Speech:

- Four points to determine belongs to the Indo-European family of languages

The way nouns, verbs, and other parts of speech are formed from roots and stems is essentially the same as in other Indo-European languages.

Example: Sanskrit asmi, Greek esmi (both meaning "I am").

3. Inflectional and Conjugational Changes (Morphology):

The inflectional and conjugational patterns used to express relationships between words within sentences are similar to those in other Indo-European languages.

Example: Sanskrit pitaram, Greek pitrem (both meaning "father" in the accusative case).

4. Common Pronouns, Numerals, and Kinship Terms:

Pronouns, numerals, and some common words expressing family or immediate relationships are shared among the languages in the family.

In which Nouns, Verbs and other parts of speech are formed from the roots and stems is essentially same as in other Indo-European languages. Example- Skt.*asmi*, Gk.*esmi*.

The inflexional and conjugational changes (Morphology) in order to express the relationship of words within a sentence are the same as in other Indo-European languages. Example- Skt. *pitaram,* Gk. *pitrem.*

The pronouns, numerals and some other common words expressing family or immediate relationship are same as in other Indo-European languages. Example-

Skt	Avesta	Germanic	Latin	Gothic	Slave	Eng
Aham	*Azem*	*egő*	*ego*	*ik*	-	*i*
mām	*Mam*	*Me,emi*	*mi*	*mik*	-	*me*
dvam	*Dva*	*duo*	*duo*	-	*dva*	*two*
astau	*Asta*	*akto*	*octo*	-	*azhtumi*	*eight*
dasa	*Dasa*	*deka*	*decin*	-	*dezintis*	*ten*
pita	*Gk. pater*	*vater*	*Vater*	-	-	*father*
bhrata	*Gk. phater*	-	*frater*	-	-	*Brother*
kah	-	-	*quod*	*hwas*	-	*Who*
hrd	-	-	-	*hairto*	-	*Heart*
tryah	-	-	*tres*	*threis*	-	*three*

Characteristics of Indo-European Languages

There are eight characteristics of the I.E. Languages which can be noted.

1. Suffix-Inflexion:

- The inflexion in the I.E. Languages is terminal i.e., with the help of suffixes

The inflexion in Indo-European languages is primarily terminal, meaning it occurs through the use of suffixes. These suffixes are believed to have originally been independent words, which, due to phonetic and other changes, were reduced to mere syllables that convey grammatical meanings when added to other words, but do not have independent meaning on their own.

2. Originally Synthetic but Becoming More Analytic:

- Languages can evolve from synthetic (inflected) to analytic (positional)

Indo-European languages were originally synthetic in structure, where suffixes were an integral part of the word and combined with the root to form grammatical units. The root is the most important part, and suffixes undergo changes over time. When phonetic and other changes significantly corrupt suffixes, they may become confused or lost entirely. Their function is then replaced by prepositions, auxiliary verbs, and adverbs, causing the language to shift from a synthetic (inflexional) to an analytic and positional type. Modern Indian vernaculars, modern Iranic languages, and English show such developments..

3. Monosyllabic Roots with Suffixes:

The roots in Indo-European languages are primarily monosyllab-

ic and do not exist independently without suffixes. There is a large variety of suffixes to express different meanings and grammatical functions. Suffixes can be piled one upon another, as seen in complex forms like जीवयिष्यध्वे(Sanskrit). These suffixes are classified into two types:

- European roots are typically monosyllabic. Roots do not exist independently without suffixes

- Primary suffixes (कत् प्रत्यय)
- Secondary suffixes (तद्धित प्रत्यय)

Secondary suffixes include word-building suffixes (तद्धित), case-indicating suffixes (सुप् प्रत्यय), and verbal suffixes (तिङ् प्रत्यय).

(4) Absence of Syntactical Prefixes:

- Indo-European languages like Sanskrit, Greek, Latin, and Germanic do not have syntactical prefixes

Unlike suffixes, prefixes (उपसर्ग) in Sanskrit and corresponding verbal prefixes in Greek, Latin, and Germanic languages modify the meaning of the root but have no syntactical function. They can be separated from the verb or omitted without changing the grammatical structure. For example, in Vedic Sanskrit, phrases like "आ देवो याति" and "आ सत्येन रजसा वर्तमानः" show that prefixes can stand apart or be left out.

(5) Ability to Form True Compounds:

- True compounds are words formed by combining two or more words with clear syntactical connections

A distinctive feature of the Indo-European family is the ability to form true compounds, not just simple juxtapositions of words (as in Semitic languages). In true compounds, words are combined with clearly marked syntactical relationships. Although syntactical suffixes are omitted in compounds, the grammatical relationship between the words remains clear.

(6) Vowel Gradation (Ablaut):

- Vowel gradation refers to the change in vowel quality or quantity in words

Another important characteristic is vowel gradation or ablaut. This originated from the accent system of the Indo-European family. Often, as suffixes dropped over time, vowel changes became the only remaining markers of grammatical inflexion. Unlike Semitic languages where vowel gradation carries syntactical meaning, in Indo-European languages, it does not have syntactical significance but is a result of phonetic changes caused by stress or accent.

(7) A Great Variety of Flexions and Suffixes:

- Indo-European languages exhibit a great variety of flexions and suffixes

In Indo-European languages, all syntactical relationships are expressed through flexions (inflections). There are distinct flexions for each grammatical relationship, which has led to the development of a wide variety of suffixes within this language family.

(8) Reduplication of Roots:

Another characteristic feature of the Indo-European languages is the use of reduplication, the repetition of all or part of the root, to form certain verb forms or express grammatical meanings. This process is common in various Indo-European languages and serves as a method of word formation or grammatical modification.

Other minor Indo-European Languages

The Dardic or Paisāca languages spoken by the people of the North-West regions of the Himalayas, from which Kashmiri, Nepali and such other modern languages have developed, bear clear affinities with the Aryan group but their position is midway between Aryan and Iranian.

The Dardic or Paisāca languages, spoken by people in the north-western regions of the Himalayas, from which modern languages such as Kashmiri and Nepali have developed, show clear affinities with the Aryan group. However, their position is considered to be intermediate between Aryan and Iranian languages.

Among the languages surveyed in India is a group known as the Gypsy languages. Since the Gypsies are wandering tribes, their languages have mixed with other languages over time and have become considerably corrupted. These tribes are believed to have migrated from India around the 5th century A.D. One group moved towards Armenia, while another migrated further into Europe. Consequently, the Gypsy languages are divided into two groups: Armenian and European.

Other ancient languages that belong to the Indo-European family include Phrygian, Thracian, and Old Scythian.

Summarised Overview

The Indo-European family consists of several groups of languages. These include Aryan or Indo-Iranian, Armenian, Greek, Albanian, Italic, Germanic, Balto-Slavonic, Celtic, Tokharian, and Hittite. These ten groups are known by various names such as Aryan, Indo-Germanic, Indo-European, and Indo-Celtic.

There are four main criteria to determine whether a particular language belongs to the Indo-European family:

1. The roots or stems (धातु and प्रातपिदकिम्) of the language are the same as those found in other Indo-European languages.
2. The way nouns, verbs, and other parts of speech are formed from roots and stems is essentially the same as in other Indo-European languages.
3. The inflectional and conjugational changes (morphology) used to express relationships between words within a sentence are similar to those in other Indo-European languages.
4. The pronouns, numerals, and some common words expressing family and other basic concepts are shared with other Indo-European languages

Assignment

1. What are the main branches of the Indo-European language family?
2. How do linguists determine whether a language belongs to the Indo-European family?
3. What are some key characteristics of Indo-European languages?
4. What are some examples of languages that belong to the Indo-European family?
5. How do the Indo-European languages differ from other language families, such as the Semitic or Dravidian languages?
6. Analyse the characteristics of Indo-European languages and their evolution over time.

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Space for Learner Engagement for Objective Questions

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SGOU

Unit : 3 Centum and Satam groups

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- identify the Indo-European family of Languages.
- discuss the classification of Languages.
- remember the Centum and Satam groups.

Background

The Indo-European family consists of several groups of languages, including Aryan or Indo-Iranian, Armenian, Greek, Albanian, Italic, Germanic, Balto-Slavonic, Celtic, Tokharian, and Hittite. These ten groups are further divided into two mutually exclusive categories: Centum and Satam languages. This division, first formulated by Ascoli, is clearly marked by distinct phonetic differences. Sanskrit belongs to the same Indo-European language family as Greek, Latin, and other related languages.

Keywords

Centum group, Satam group, palatal sounds, front gutturals, consonantal sound, Grimm's Law, pronoun declensions, *Parasmai pada*, *Atmane pada*, conjugations, compound words, cuneiform script, Rgveda, Zend Avesta, Zoroastrians.

Discussion

Division of Indo-European Languages

- I.E. Languages are two main groups-centum and satam groups

The Indo-European languages are divided into two main groups: the Centum group and the Satam group. These two groups are mutually exclusive, with no overlapping or transitional region between them. This clear phonological division was first formulated by the Italian linguist Graziadio Isaia Ascoli in 1870.

- Ascoli thought that centum and satam groups marked out the eastern and western languages of the I.E. family

Ascoli observed that the parent Indo-European language contained a series of palatal sounds (also known as front gutturals), typically represented as *ḱ*, *ǩh*, *ĝ*, and *ĝh*. Among these, the sound *ḱ* underwent two distinct developments in the daughter languages. In one group, it evolved into a guttural sound such as *k*; in the other, it changed into a sibilant sound, such as *ś* or *s*. This phonetic divergence forms the basis of the Kentum–Satam classification.

The division is named after the word for "hundred," which exists in all Indo-European languages and clearly illustrates this sound difference. The original Indo-European word kmtom evolved into:

Centum languages:

Latin- centum (केन्तु), Greek- hekaton, Old Irish- cét (केतु), Gothic-hund, Tokharian-kundh, etc. Here, the *ǩ* became a guttural *k* sound.

Satam languages:

Sanskrit *śatam*, Avestan *satam*, Lithuanian *šimtas*, Russian *sto*, etc. In these languages, the *ǩ* became a sibilant *ś* or *s* sound.

Ascoli believed that this division roughly marked the eastern (Satam) and western (Centum) branches of the Indo-European family.

Table showing śatam and centum groups: -

I.E. Languages

Satam group	**Centum group**
1. Aryan or Indo Iranian	5. Tokharian
2. Armenian	6. Hittite
3. Letto-Slavic or Baltic Slavonic	7. Greek
4. Albanian	8. Italic
	9. Germanic or Teutonic
	10. Keltic

Branches of Indo-European Family

- Branches of I.E. family

1. The Keltic Branch

Languages such as Irish and Welsh belong to the Keltic branch of the Indo-European family. A notable feature of this branch is the development of a strong stress accent, often placed on the initial sylla-

ble. This stress has led to the reduction or loss of unstressed vowels, resulting in significant changes in word forms over time. Additionally, the traditional noun declension system has largely been replaced by prepositional constructions, making the grammar more analytic in structure.

2. Germanic or Teutonic Branch

- Germanic or Teutonic Branch also show a set of consonental sound shifting

The history of the Germanic branch shows a clear progression from a synthetic to a more analytic structure. Languages in this branch include Gothic, Danish, Swedish, Dutch, English, and Icelandic. A common feature among these languages is the development of a strong stress accent, usually placed on the initial syllable of words. An exception is Swedish, which retains a pitch accent system.

A defining characteristic of the Germanic languages is their unique pattern of consonantal sound shifts, known collectively as Grimm's Law. This set of changes distinguishes Germanic languages from other Indo-European branches and played a significant role in the development of their phonological systems.

3. The Italic Branch

Latin is the most important and well-documented language of the Italic branch of the Indo-European family. The history of Latin is deeply intertwined with the history and expansion of the Roman Empire. As Rome grew in power, Latin spread across vast territories in Europe, becoming the dominant administrative and cultural language.

However, with the fall of the Roman Empire, Latin gradually ceased to be a living spoken language. As communication between different parts of the empire declined, each Roman province began to develop its own regional variety of Latin. Over time, these regional forms evolved into distinct Romance languages, including Italian, French, Spanish, Portuguese, and Romanian, among others.

These modern languages retain many core features of Latin but have also undergone significant phonological, grammatical, and lexical changes, reflecting their local influences and histories.

4. The Greek branch

- Greek is a very typical I.E language and possesses the most elaborate grammatical structure

The Greek branch of the Indo-European family is represented primarily by the Greek language, which, due to the geographical diversity and political fragmentation of ancient Greece, developed into a large number of regional dialects. Greek is considered a very typical Indo-European language, known for preserving many original features and having one of the most elaborate grammatical structures in the family.

Greek is especially important for comparative Indo-European studies, alongside Vedic Sanskrit, as they are the two oldest recorded Indo-European languages from the western and eastern parts of the linguistic family, respectively.

Comparison of Greek and Vedic Sanskrit:

1) Phonology:

Greek preserves the vowel system of the Proto-Indo-European (PIE) language quite closely and is rich in diphthongs.

Sanskrit, on the other hand, better preserves the consonantal system of the parent language.

2) Accent:

Both languages possess a pitch (musical) accent, a feature believed to have existed in the original Indo-European language.

3) Nominal System:

Sanskrit has a more elaborate system of noun and pronoun declensions, including more distinct case forms.

Greek retains only some of the rarer Indo-European cases (e.g., the instrumental and locative have largely disappeared or merged with other cases).

4) Indeclinable:

Both languages possess a wide range of indeclinable words, including prepositions and adverbs.

5) Verbal System:

Both have *Parasmaipada* and *Atmanepada* verb forms (active and middle voices).

Sanskrit has a richer system of tense formations and derived conjugations, such as those formed with grammatical elements like णिच्(causative), सन् (desiderative), यङ्, and यङ्लुगन्त.

Greek excels in the use and variety of participles, infinitives, gerunds, and verbal nouns.

6) Number System:

The dual number (in addition to singular and plural) is found in both languages.

7) Word Formation:

Both Greek and Sanskrit have a strong capacity for forming com-

pound words, often with complex internal structure.

8) Dialects:

The main dialects of ancient Greek are Attic and Doric.

Doric is more conservative and retains features closer to the original Indo-European forms, for example, it preserves the PIE a sound.

Attic, the basis of Classical Greek, tends to modify PIE sounds, for instance:

PIE māter ("mother") → Doric: māter, Attic: mētēr

5. The Hittite Branch- The Hittite branch represents one of the earliest known divisions of the Indo-European language family. A significant breakthrough in historical linguistics occurred when several inscriptions written in Sumerian and Akkadian cuneiform script were deciphered and found to contain records of the Hittite people, a group previously known only through references in the Bible and other Hebrew sources.

These Hittite inscriptions are now recognized as the oldest written records of any Indo-European language, dating back to around the 17th century BCE. The discovery of Hittite fundamentally reshaped our understanding of Indo-European linguistics, especially because of its archaic features and several elements that appear simpler or more primitive than in other Indo-European languages.

- Tokherian is a new language of the I.E languages belonging to the centum group

6. The Tokherian Branch- This is a relatively recently added branch of the Indo-European family, identified as a result of French and German expeditions to Turfan in Central Asia during the late 19th and early 20th centuries. During these explorations, a large number of manuscripts written in an ancient Indian script (primarily Brahmi) were discovered.

When these manuscripts were deciphered, they revealed a previously unknown Indo-European language, now classified as the Tokherian branch. Remarkably, despite its location in the far east of the Indo-European world, Tokherian belongs to the Kentum group, not the Satem group, unlike most other Indo-European languages spoken in Asia. This unexpected classification has had important implications for understanding the spread and diversification of Indo-European languages..

7. The Albanian or the lilyrian Branch- The Albanian (or Illyrian) Branch

Albanian is the only surviving language of what is believed to have been a once extensive Illyrian branch of the Indo-European family.

- Lattic or the Baltic group is represented by three languag-es- Old Prussian, Lithunian and Lettic

Although Albanian has undergone significant external influences, particularly from Latin, Greek, Slavic, and Turkish, it retains a core Indo-European structure and vocabulary.

There are no significant literary monuments of the ancient Illyrian language, and our knowledge of it is extremely limited. Only a few inscriptions and place names remain, making it difficult to reconstruct Illyrian directly. Nevertheless, Albanian, with its unique phonological and grammatical features, stands as the sole representative of this branch

8. The Letto-Slavic or Balto-Slavic Branch-

The Letto-Slavic or Balto-Slavic branch is traditionally divided into two main groups: the Baltic group and the Slavic group.

The Baltic group includes three primary languages: Old Prussian (now extinct), Lithuanian, and Latvian (Lettic). Among these, Lithuanian is especially noteworthy for preserving the ancient pitch or musical accent, a feature also found in Vedic Sanskrit and Ancient Greek, making it one of the most archaic living Indo-European languages.

The Slavic group is represented by a large number of modern languages, including Russian, Czech, Polish, and many others, spoken widely across Eastern Europe and parts of Central Asia.

Together, these groups form an important branch of the Indo-European family with both shared and distinct linguistic features.

9. The Armenian Branch- The Armenian language has been heavily influenced by Iranian languages, to such an extent that it was once mistakenly classified as part of the Iranian group. Despite these influences, Armenian is a distinct branch of the Indo-European family with its own unique characteristics.

The older form of Armenian continues to be preserved and used in religious contexts by Armenian priests, much like how Sanskrit is maintained by Brahmins in India for liturgical purposes.

- The two main groups of the Aryan Branch-Indian and Iranian

10. Aryan or Indo-Iranian Branch - The Aryan or Indo-Iranian branch is notable for having some of the oldest literary records among the Indo-European languages, such as the Rigveda (in Sanskrit) and the Zend Avesta (in Old Iranian).

This branch is traditionally divided into two closely related groups:

Indian Group:

The oldest and most important texts of this group are the Vedas, which constitute the earliest recorded literature of the entire Indo-Eu-

ropean family.

The Indian group includes modern languages such as Hindi, Bengali, Punjabi, and others.

Iranian Group:

The Iranian languages produced an extensive body of religious literature, much of which has been lost over time.

The surviving sacred texts are collectively known as the Avesta or Zend, which are the sacred scriptures of the Zoroastrian religion.

Other remnants of Old Iranian dialects appear in inscriptions, the most famous being the Behistun Inscription of King Darius, which is written in Old Persian.

Additionally, the Dardic languages form a sub-branch of the Aryan family that linguistically stands between the Indian and Iranian groups, spoken mainly in the northwestern Himalayas.

a) Iranian Languages

- Old Persian and Avesta are the ancient Iranian languages

Old Persian and Avesta are the two primary ancient Iranian languages.

Old Persian is known primarily through a series of cuneiform inscriptions, such as those found on the Behistun Rock.

The Avesta, which survives only in fragments, is part of a vast body of religious literature. The language of the Avesta shows a close resemblance to the Rigvedic Sanskrit, indicating that these two ancient languages were sister languages that likely diverged at least by the second millennium BCE.

The most important language of the Middle Iranian period is Pahlavi, which displays a significant admixture of Semitic words, reflecting cultural and linguistic contacts.

Among modern Iranian languages, Persian (Farsi) is the most prominent, widely spoken and with a rich literary tradition. Other significant modern Iranian languages include Pashto (spoken in Afghanistan) and Kurdish.

The relationship between the three historical stages of the Iranian languages, Old Persian, Middle Iranian (Pahlavi), and Modern Iranian languages, is comparable to the relationship between Vedic Sanskrit, Pali and Prākṛtas, and modern Indian vernaculars in the Indo-Aryan branch.

(b) Aryan Languages of India

Vedic Sanskrit is the oldest dialect of the Aryan branch in India.

- Vedic Sanskrit is the oldest dialect of the Aryan branch in India

It preserves many features of the original Indo-European language. Its case system is almost the same as the ancient Indo-European case system, although it has suffered some losses in the vowel system. In conjugation and other grammatical aspects, Vedic Sanskrit has retained many archaic features that later languages lost.

Vedic Sanskrit is distinguished from Classical Sanskrit by having a richer variety of verbal forms, differences in vocabulary, and variations in phonetics.

Summarised Overview

The Indo-European languages are divided into two main groups: the Centum group and the Satam group. This two-fold division was first formulated by Ascoli in 1870. He pointed out that the parent Indo-European speech possessed a set of palatal sounds (front gutturals), usually written as ḱ, ǩh, ĝ, ĝh. Among these, the sound ǩ underwent a two-fold development. For example, the Indo-European word *kmtom* evolved into *centum* in Latin, *hekaton* in Greek, *cét* in Old Irish, *hund* in Gothic, *kundh* in Tokharian, *śatam* in Sanskrit, *satom* in Avestan, *šimtas* in Lithuanian, and *sto* in Russian. Languages in which ǩ changes into a guttural k are called Centum languages, while those in which ǩ changes into a sibilant ś or s are called Satam languages. The Satam group includes Aryan or Indo-Iranian, Armenian, Balto-Slavic (Letto-Slavic or Baltic-Slavonic), and Albanian, whereas the Centum group includes Tokharian, Hittite, Greek, Italic, Germanic or Teutonic, and Celtic. This division is based on the development of palatal sounds in the parent Indo-European language, with Centum languages showing a guttural k sound and Satam languages a sibilant ś or s sound.

Assignment

1. How do the Centum and Satam groups differ in terms of sound changes?
2. Which languages belong to the centum group, and which belong to the Satam group?
3. What is the significance of the word “hundred” in illustrating the difference between Centum and Satam languages?
4. How did Ascoli contribute to the study of Indo-European languages?
5. Discuss the division of Indo-European languages into Centum and Satam groups, provide examples of languages that belong to each group.
6. What is the characteristic sound change that defines centum languages?
7. What is the characteristic sound change that defines Satam languages?
8. Name three languages that belong to the centum group and three languages that belong to the Satam group.

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SGOU

Unit : 4

Dialects and cognate Languages

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ remember the Indo-European family of Languages.
- ❖ recall the classification of Languages.
- ❖ remember the Dialects and cognate languages.

Background

In classical Sanskrit, many Vedic words and forms were lost, and the use of long compounds, which were rarely found in the Vedas, became common. Prakrit and Pali are related to classical Sanskrit; while classical Sanskrit was employed mainly for religious and literary purposes, Prakrit represented the old dialects in popular use, often less bound by strict grammatical rules. The main Prakrit languages include Maharashtri, Shauraseni, Magadhi, Ardhamagadhi, Paishachi, and Pali. Dialects and cognate languages are fascinating aspects of linguistics, reflecting the diversity and evolution of languages. Dialects may be mutually intelligible with the standard language or can differ significantly, while cognate languages share a common ancestor or have borrowed words and structures from each other.

Keywords

Prākrt, pali, long compounds, nominative, accusative, vocative, phonetic decay, conjunct consonants, modern vernacular, dialects (देशभाषितम्).

Discussion

In classical Sanskrit, many Vedic words and forms were lost, and the use of long compounds, rarely found in the Vedas, became common. Several infinitive forms present in Vedic, such as *tum*, *tave*, *tavai*, *toh*, *ase*, and *dhyai*, were reduced in classical Sanskrit, which preserved only *tum*. Verbal terminations like *masi*, *dhva*, and *e*, which were used alongside *mas*, *dhvam*, and *ta* in the Vedas, disappeared in classical Sanskrit. Similarly, imperative forms ending in *dhvat* and *dhi*, frequently used in the Vedas along with *hi*, were lost except for occasional remnants like *juhudhi*. In declension, many double forms, such as *asas* used for plurals in *devāsah*, *janasah*, and the ending *a* for nominative, accusative, and vocative duals (as in *Indravaruna*), disappeared entirely. The root ग्रभ् shows the consonant ह् only after the vowel ऋ in the Rigveda, as in हस्तगृह्य, but in classical Sanskrit it consistently became ह्. For example, Vedic जग्राभ corresponds to classical Sanskrit जग्राह, and गृभाय corresponds to गृहाण.

- In classical Sanskrit the toss of many Vedic words and forms and the use of long compounds rarely found in the Vedas.

A modern Indian language typically takes hundreds of years to emerge from another language and develop its own independent identity. This gradual process is how new languages are born and evolve. It took thousands of years for modern Indian languages to emerge from Vedic Sanskrit. The timeline generally follows: from Vedic Sanskrit (around 1500 BC) to Classical Sanskrit (around 600 BC), then to Prakrit languages (approximately 200 AD to 600 AD), followed by Apabhramsha (600 AD to 1100 AD) and Avahatta (1100 AD to 1300 AD). From various Apabhramsha dialects, modern Indian languages developed between 1100 AD and 1600 AD and continue to evolve today. Modern languages are generally considered grammatically and phonetically simpler than Apabhramsha, and Apabhramsha is simpler than Sanskrit. Similarly, Prakrit languages are simpler than Sanskrit.

- Dialect in Prakrit and Pali languages

Prakrit and Pali developed alongside Classical Sanskrit, which was primarily used for religious and literary purposes. While Sanskrit was a highly formalised language governed by strict grammar rules, Prakrit and Pali were popular dialects spoken by the common people. These dialects were less constrained by rigid grammatical structures, allowing them to evolve more rapidly. As a result, Sanskrit remained the language of scholarly texts and learned individuals, while Prakrit and Pali became the living, spoken languages of the masses.

Dialects are regional or social variations of a language, often distinguished by unique vocabulary, pronunciation, or grammar. Cognate words are shared across different languages and originate from

the same root word. While Sanskrit was originally a spoken dialect, its growth was eventually limited, as explained earlier. In contrast, other spoken dialects evolved rapidly and developed into various Prākṛt languages, among which Pali was notable for being the language used by Buddha to preach his teachings. Thus, the Prākṛts represent the natural development of older Sanskrit, arising from the loss of certain forms, phonetic changes, and the creation of new linguistic elements.

Prākrt Languages- The main Prākṛt languages are महाराष्ट्री, शौरसेन्ी, मागधी, अर्धमागधी, पैशाची, and पाली. Sanskrit grammarians referred to all these languages as अपभ्रंश, meaning they were not governed by strict grammatical rules. This classification indicates that these were spoken dialects (देशभाषितम्), considered unsuitable for literary purposes. However, these Prākṛts eventually gave rise to the modern vernacular languages of North India due to their literary use and the gradual imposition of grammatical rules. Popular languages are typically not bound by strict grammar and continue to evolve over time. For example, modern Marathi developed from महाराष्ट्री Prākṛt; Gujarati, Rajasthani, Punjabi, and Western Hindi emerged from शौरसेनी; Eastern Hindi from अर्धमागधी; Bengali, Oriya, Bihari, and Assamese from मागधी; and Kashmiri from पैशाची Prākṛt. Nepali and several Himalayan dialects are also believed to have derived from पैशाची.

- Prākṛt languages are महाराष्ट्री, शौरसेनी, मागधी, अर्धमागधी, पैशाची, and पाली

Some Characteristics of Prākrt Languages

Prākṛts show several distinguishing features in contrast to Sanskrit. The large number of cases and the richness of verbal forms found in Sanskrit tend to disappear in Prākṛts. In later Prākṛts, nouns typically have only two or three case endings, and verbs retain little more than one tense and two participles. Phonetically, conjunct consonants are often assimilated, for example, चक्क for चक्र and बत्ता for आत्मन्. The बद्धि diphthongs disappear, and the sound य is increasingly replaced by ज्, as in अज्जो for आर्य and कज्जो for कार्य. Among the three sibilants, only the dental स् generally survives, as in सुणो for श्रुणु. The विसर्ग completely disappears, and final consonants tend to vanish as well. The dual number is completely lost, and only three case forms - nominative, accusative, and genitive, remain. In verbs, the Imperfect, Perfect, and Aorist tenses, along with the आत्मनेपद, have disappeared in most Prākṛts; however, the Aorist and आत्मनेपद are still found in Pāli. All declensions are levelled to the अ declension, and no more than two consonants follow a short vowel, while only one consonant follows a long vowel.

- Main characteristics of Präkrt languages

- Origin and development of Präkrt and Pali languages

Origin of Prākṛt

Sanskrit grammarians generally consider Prākṛta to have originated from Sanskrit, with some even suggesting that Prākṛta was the original spoken dialect of the people, from which Sanskrit was later refined and developed into a literary language by scholars, hence the saying: "प्राकृतं प्राक् कृतं ज्ञेयम्" (Prākṛta is to be understood as that which was created before). However, modern philologists view the relationship differently. They argue that Prākṛta, Pāli, and the other dialects found in early inscriptions form a continuous and natural chain of linguistic development alongside Vedic Sanskrit, rather than being mere offshoots or corruptions of Classical Sanskrit.

The following points illustrate the connection between Prākṛt and the Vedic language:

Looseness of Sandhi rules and the phenomenon of svarabhakti (insertion of a vowel between consonants) are common in both Vedic and Prākṛt. For example, Vedic वरेणियं or वरेण्यम् , and Prākṛt भारिया, for भार्या.

The change of "d" to "l" occurs in both Vedic and Prākṛt. For instance, Vedic ईळे for ईडे, and Prākṛt गुल for गुड.

Certain inflectional forms in Prākṛt trace back directly to Vedic forms. For example, the Vedic nominative plural आसः as in देवासः corresponds to the Prākṛt आहो (as in पुत्ताहो). Likewise, the Vedic imperative singular बोधि appears as होहि in Prākṛt.

In terms of vocabulary, Prākṛts preserve certain words that are directly traceable only to the Vedic language, highlighting their deep-rooted linguistic connection.

Ved. पाश् Prä - पासो

Ved. घिसु Prä - घिसु

Some scholars hold the view that even during the Vedic period, there existed another dialect spoken by the common people. This popular dialect was influenced by the Vedic language, and it is believed that from it, Pāli and the Prākṛts later originated. However, in the absence of concrete evidence for the existence of such a dialect in that early period, it is safer to interpret the phonetic changes and the loss of certain Vedic sounds in the Prākṛts as natural corruptions or simplifications of the original Aryan dialects, especially in the speech of the non-Aryan natives who had been subjugated by the Aryans. Over time, these features gradually made their way into the Aryan speech itself.

From what has been discussed above, it is clear that the original Indo-Europeans were a tribe or group of people who spoke a common ancestral language. As they migrated in different directions, their language began to change, phonetically, morphologically, syntactically, and semantically, eventually developing into numerous dialects and related languages.

A study of any language over time shows that language is never static. It constantly changes and evolves. For instance, the Vedic language is much more archaic than the language of the Epics or of Classical Sanskrit. Likewise, clear differences exist between the language of the Epics and that of the later Kāvyas, showing the continuous and dynamic development of language through time.

Summarised Overview

In Classical Sanskrit, many words and grammatical forms from the Vedic language were lost, and the use of long compounds, rare in the Vedas, became more frequent. Infinitive forms in the Vedic language, such as -tum, -tave, -tavai, -toh, -ase, -dhyai, were reduced in Classical Sanskrit to primarily one form: -tum. Verbal terminations like masi, dhva, and e, which were used alongside mas, dhvam, and ta in the Vedas, also disappeared. Similarly, many dual and plural forms, such as -āsas in *devāsah, janasah*, and -a for nominative, accusative, and vocative duals (e.g., *Indravarunā*) were dropped in later Sanskrit. The main Prākṛt languages - Māhārāṣṭrī, Śaurasenī, Māgadhī, Ardhamāgadhī, Paiśācī, and Pāli, were regarded by Sanskrit grammarians as Apabhraṁśa, meaning not bound by strict grammatical rules. This classification reflects their status as spoken dialects (देशभाषितम्), unlike Sanskrit, which was a refined literary language. In later Prākṛts, grammatical complexity decreased drastically: nouns had only two or three case endings, and verbs retained little more than one tense and two participles. Some Sanskrit scholars believed Prākṛt was derived from Sanskrit, while others argued the reverse, that Prākṛt was the original speech of the people, later refined into Sanskrit by the learned, as expressed in the phrase प्राकृतं प्राक् कृतं ज्ञेयम्. Prākṛts also display several features connecting them directly to the Vedic language. For example, both show looseness in Sandhi rules and vowel insertion (svarabhakti), as seen in forms like *bhāriyā* (Prākṛt) for *bhāryā*, or *vareṇiyam* in Vedic. Both Vedic and Prākṛt also exhibit the change of *d* to *l*, as in *īle* for *īḍe* in Vedic, and *gula* for *guḍa* in Prākṛt. Certain inflectional forms in Prākṛt trace back to Vedic, for instance, *devāsaḥ* (Vedic) becomes *devāho* in Prākṛt, and *bodhi* (Vedic imperative) becomes *hohi*. Furthermore, many Prākṛt words can be traced not to Classical Sanskrit, but directly to the Vedic lexicon. These features demonstrate that Prākṛt did not simply evolve from Classical Sanskrit but developed alongside it from older Aryan dialects, preserving many archaic traits lost in the more refined literary language.

Assignment

1. What are the main differences between Vedic Sanskrit and Classical Sanskrit?
2. What are Prākṛt languages, and how did they develop?
3. What are some key characteristics of Prâkṛt languages?
4. How do Prākṛt languages differ from Sanskrit?
5. What is the relationship between Prākṛt languages and modern Indian vernaculars?
6. How did the use of Sanskrit and Prākṛt languages influence each other?
7. Discuss the evolution of Sanskrit from Vedic to Classical Sanskrit.
8. Analyze the characteristics of Prākṛt languages and their relationship to Sanskrit.
9. Examine the role of Prākṛt languages in the development of modern Indian vernaculars.
10. What are some examples of Prākṛt languages?
11. How did the Prākṛt languages lose certain Vedic sounds and forms?
12. What is the significance of Pali in the development of Prākṛt languages?

Reference

1. Crystal, David. *Linguistics,* Cambridge University Press, Cambridge.
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Suggested Reading

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Space for Learner Engagement for Objective Questions

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SGOU

BLOCK-02

Phonology and Phonetics

Block Content

Unit : 1

Speech Mechanism, Classification of Sounds

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ define phonology and its significance in language study
- ❖ identify the basic concepts of linguistics
- ❖ comprehend the different aspects of Sanskrit grammar from a linguistic perspective
- ❖ remember the classification of sounds
- ❖ analyse and compare the sound systems of different languages

Background

Language is the mode of expression of thought by means of articulate sounds. In the production of these sounds, the chief factors are breath and the organs of speech such as, the larynx, glottis, vocal cords, pharynx, uvula, palate, tongue, teeth, lips and nose. Phonology is the branch of linguistics that deals with the study of speech sounds and their distribution within languages. It examines how sounds are produced, perceived, and patterned, providing insights into the sound systems of languages. Phonology is the science of language. It deals with the sounds of speech and their formation in each language. For a proper understanding of the production of sounds and their changes, it is necessary to study the mechanism of speech. Speech sounds are produced through the manipulation of airflow, pressure, and vocal cord vibration. The study of phonology helps us understand how these mechanisms work together to create the vast array of sounds found in human languages.

Keywords

Phonology, Larynx, Glottis, Vocal Cords, Pharynx, Uvula, Palate, Tongue, Teeth, Lips, Nose, Vocal Cords, Voiced (घोष), Unvoiced Sound (अघोष), Spirants or Sibilants or Fricatives (ऊष्माणः), Aspirate (महाप्राण), Non-Aspirate (अल्पप्राण)

Discussion

The Organs of Speech

- Phonology deals with the sounds of speech and their formation in each language

Phonology is a fundamental branch of linguistics that focuses on the sounds of speech and how they are formed in each language. To fully understand how speech sounds are produced and how they change, it's important to study the mechanism of speech sound production. Language is the expression of thought through articulate sounds. The production of these sounds primarily involves the breath and various speech organs, including the larynx, glottis, vocal cords, pharynx, uvula, palate, tongue, teeth, lips, and nose.

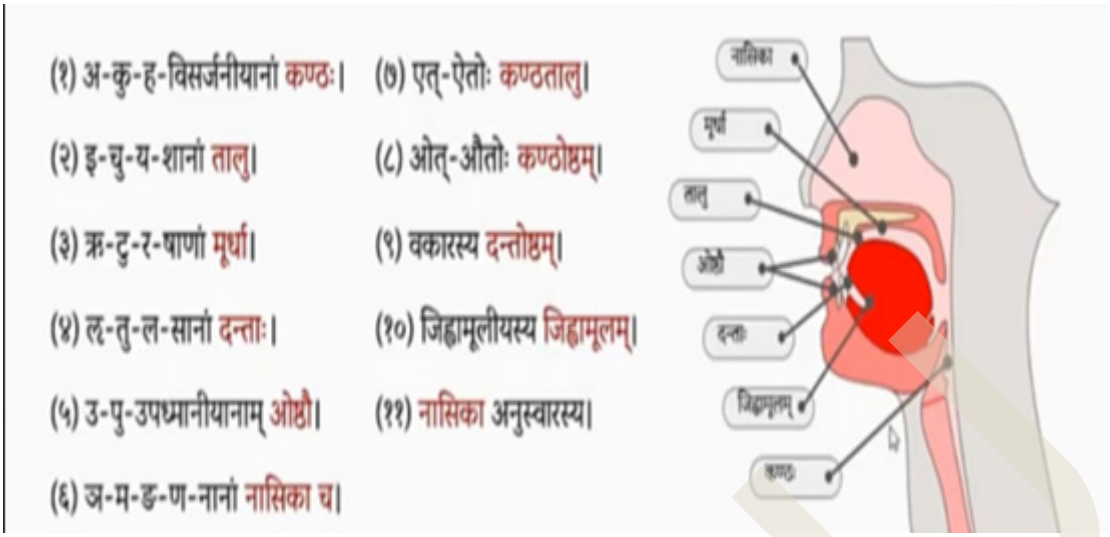
- The chief factors are the breath and the organs of speech

Located in the throat, there is a slight swelling in the windpipe known as the larynx, which houses the vocal cords - the main vocal mechanism. These cords are two thin but strong elastic bands joined at the front but open at the back. During normal breathing, they remain apart, creating an open space (glottis) through which air passes freely without obstruction from the throat or mouth muscles. However, when producing speech sounds, the situation changes. The vocal cords can be drawn together by muscular tension, narrowing the passage of air. As air passes through this narrow glottis, it causes the vocal cords to vibrate, producing a sound. This sound is known as a voiced sound or घोष (वर्गेषु तृतीयचतुर्थौ).

When the passage is wide open, the air passes without being obstructed in the Larynx but produces an audible sound being obstructed somewhere in the mouth and thus we get what we call the unvoiced sound - अघोष (वर्गेषु प्रथमद्वितीयौ):1

- Explain वर्गपञ्चकम्, कवर्ग, तवर्ग and पवर्ग are primary classes चवर्ग and टवर्ग are derivative classes

The obstruction in the mouth may be partial or complete. When it is partial the breath stream passing through a narrow passage produces a hissing sound, and thus we get the Spirants or Sibilants or Fricatives (ऊष्माणः). When the obstruction into mouth is complete, the breath stops for a while and then be released, suddenly, producing sounds like an explosion, and thus we get the explosives - वर्गपञ्चकम् । They are also called 'Mutes' or 'Stops' and in Sanskrit स्पर्शाः or contact sounds. The contact may occur in any part the mouth, and hence it is possible to have an infinite variety of sounds. Of the five classes of explosives in Sanskrit, the three कवर्ग, तवर्ग and पवर्ग are primary classes, while the remaining two चवर्ग and टवर्ग are derivative classes. The old names Gutturals or Linguals for कवर्ग and टवर्ग respectively have been replaced by more scientific names-the Velars and Cerebrals. The cerebrlas are also called retroflex sounds.



- Four varieties of sounds- Voiced stops, unvoiced stops, Voiced spirants unvoiced spirants

There are our varieties of sounds - (1) Voiced stops, (2) Unvoiced stops, 3) Voiced spirants, (4) Unvoiced spirants. In Sanskrit and Greek there is a further variation of stops caused by the addition of a breath or whisper to the stops. This addition is called 'Aspiration'. Thus, stops may be 'aspirate' (महाप्राण) or 'non-aspirate' (*अल्पप्राण*).

Nasal sounds occur when the contact is made in the mouth and, at the momement of releasing the contact, the breath is emitted through the nose. These are called 'Nasals' (अनुनासिक) and are necessarily voiced. At other times uvula closes the nasal passage.

Classificatian of Speech Sounds

- Classification of speech sounds are vowels and consonants

In ordinary speech, there are certain sounds that pass through the mouth without any obstruction. These sounds are called sonants or vowels, and all of them are voiced. In contrast, consonants are sounds produced with either complete or partial obstruction of the airflow, resulting in an explosion or audible friction.

Vowels (स्वराः) are capable of forming syllables on their own and can be pronounced independently. Consonants, however, cannot form syllables by themselves and require the support of vowels to be pronounced and to form syllables.

- The word consonant means one that is sounded or pronounced along with another sound which is a vowel

Note:- A syllable is a unit of sound consisting of a vowel or a vowel-like consonant, produced with a single impulse of stress. When two vowels are uttered with one impulse of stress, they form a diphthong. The term “consonant” means a sound that is pronounced along with a vowel, reflecting its dependent nature. In this context, the ancient Indian classification of speech sounds into स्वर (vowels) and व्यञ्जन

(consonants) is remarkably consistent with modern phonetic principles. The word स्वर emphasizes the self-sounding, syllable-forming character of vowels, while व्यञ्जन conveys the idea of consonants as sounds that help articulate and distinguish speech, supporting but not independently forming syllables.

Some vowels can occasionally function as consonants and are then referred to as semi-vowels, such as "i" and "u". There are specific conditions under which a vowel may transition into a semi-vowel. The sounds "*r*" and "*l*" are often called liquids, as they frequently take on vowel-like characteristics. In Sanskrit grammar, these sounds -"ya," "*ra*," "*la*," "*va*"- are classified as semi-vowels (अन्तस्थाः). Although "*r*" and "*l*" are fundamentally consonants, they can occasionally function as vowels. Additionally, there is a tendency in Indo-Aryan languages to confuse "*r*" and "*l*" (रलयोरभेदः), as seen in words like नारिकेलं and नालिकेरम् , which are variations of the same word.

- Some vowels sometimes sound as consonants and they are called semi vowels- *i*, *u*.

Closely related to liquids are the two sounds "*r*" and "*l*" (ऋ and ऌ), which are classified as vowels in Sanskrit. In certain cases, when a vowel adjacent to a liquid drops out, it leaves behind a cluster of consonants that cannot be pronounced unless the liquid takes on the role of a vowel. For example, the Indo-European root kar ("to do") forms the past participle by adding the suffix -tos. The accent on the suffix causes the vowel a in the root to drop, resulting in the consonant cluster *krt-os*, which cannot be pronounced unless the liquid "*r*" functions as a sonant. The sound "*l*" as a vocalic element is quite rare, even in Sanskrit.

- Sonant liquids and nasals are sounds that acquire the value of vowels when they appear between consonants

Besides the liquids, the nasals "*m*" and "*n*" can also function as sonants, and are represented as syllabic m̥ and n̥. In Sanskrit, these sonant nasals have often been reduced to a simple "*a*", with the nasal quality lost entirely. For example, the Indo-European form mn-tos becomes matas in Sanskrit. However, Latin preserves the original nasal sound in mentas, providing a clue to the original sonant nasal in the Indo-European root.

Classification of Vowels

Vowel sounds are classified in two ways: (1) according to quantity, and (2) according to quality. Quantity refers to the duration of time taken to pronounce a vowel sound. This duration is traditionally measured in terms of a मात्रा, which is the time taken to articulate a short vowel. Based on this, vowels are divided into two main types: short vowels, which take one मात्र, and long vowels, which take two

- Vowel sounds classified into two ways- Quality and Quantity

मात्रs. Sanskrit grammarians have also recognized an extra-long vowel of three मात्रs, known as प्लुत. In contrast, modern linguistics identifies an extra-short vowel, with a duration of half a मात्रा (अर्धमात्रिकः), which is represented by the symbol '*a'*.

- Classification of vowel sounds

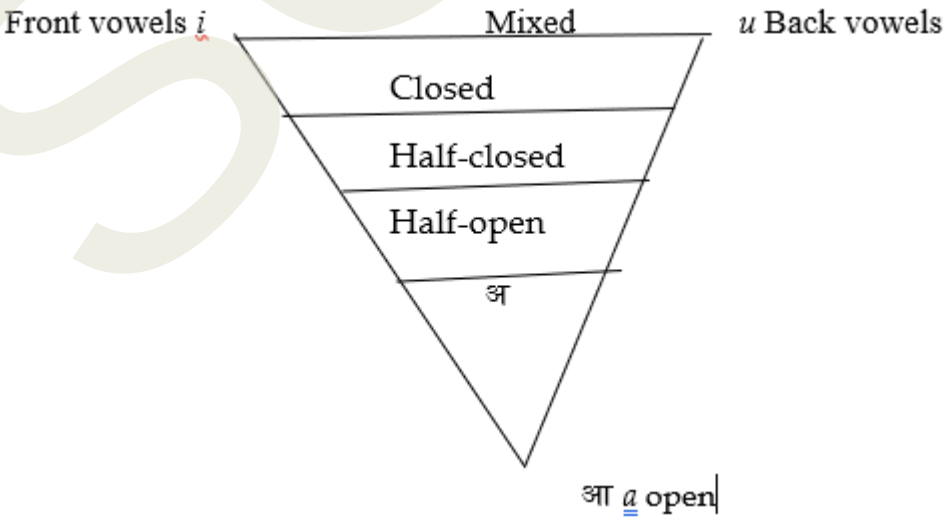
The classification of vowels according to quality, or the variation in the nature of the vowel sound itself, is more significant than classification by quantity. The quality of a vowel depends on the size and shape of the mouth opening during its articulation. The fundamental vowel is long *ā*, produced when the mouth cavity is wide open. From this position, if the mouth opening becomes smaller and the front of the tongue is gradually raised, we get the front vowels - *'a', 'e', 'i'*, and the semi-vowel *'ĭ'*. Similarly, by gradually closing the mouth while raising the back of the tongue, we obtain the back vowels - *'a', 'o', 'u'*, and the semi-vowel *'ŭ'*. All of these are simple vowels (not diphthongs), and each differs in quality based on the position and movement of the speech organs during articulation.

- The mouth cavity shows the widest opening vowel is called open- विवृत and a narrow opening, called closed- संवृत

When the mouth cavity is at its widest opening, the vowel is called open (विवृत), and when the opening is narrow, it is called closed (संवृत). Between these two extremes, there are two clearly defined intermediate stages, known as half-open and half-closed.

They can be put in a tabular form thus:-

The vowels mentioned below are all simple vowels, each capable of variation in quantity (i.e., length). However, in many languages, there are combinations of two or more simple vowels where, although each vowel is pronounced separately, the combination is



- Diphthongs are combinations of two or more simple vowels pronounced separately but felt as a single unit

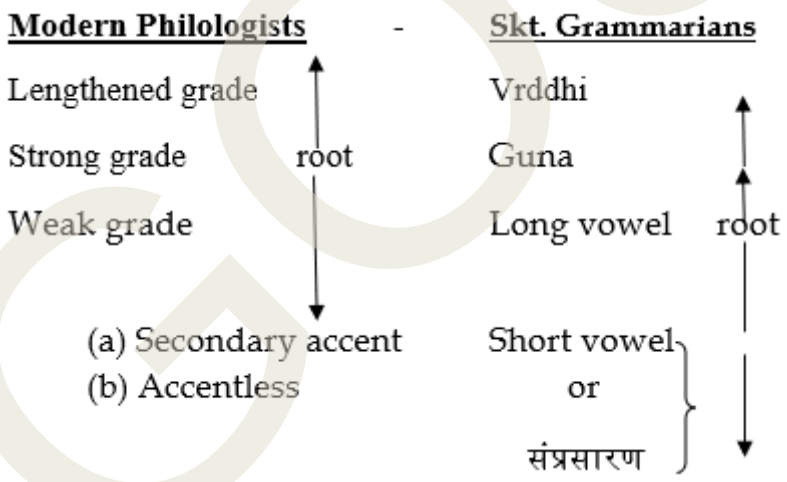
perceived as a single unit. These combinations are called diphthongs, which are always long in quantity. In Sanskrit, 'e', 'ai', 'o', and 'au' are considered diphthongs, but 'e' and 'o' have lost their diphthongal pronunciation and have been reduced to simple half-closed vowels.

From what has been explained above, we identify two series of vowel sounds - the front and the back - each associated with a semi-vowel and a long diphthong:

- Front or e-series: 'ĭ', 'i', 'î', 'e' (diphthong ai or ăi)
- Back or o-series: 'ŭ', 'u', 'û', 'o' (diphthong au or ău)

In Sanskrit, 'e' and 'o' are classified as strong vowels (गुण), while i and a are considered weak vowels (संप्रसारणम्). The diphthongs ai and au are lengthened vowels known as वृद्धि.

The difference in how vowels are treated by philologists and Sanskrit grammarians can be clearly illustrated as follows:



Classification of Consonants

Consonants can be classified on various principles. Classified from the point of:

- Consonants can be classified on various principles

1. The kind of articulation, that is, whether the sound involves voice, breath, or aspiration.
2. The degree of openness of the vocal passage during sound production, which classifies sounds into spirants, mutes, explosives (or stops), nasals, and liquids.
3. The place of articulation, referring to the point in the vocal tract where stopping, friction, or other modifications occur - such as the soft palate, hard palate, dome of the palate (मूर्धा), teeth, and lips. Sounds produced at these points are classified as velars or

gutturals (कण्ठ्य), palatals (तालव्य), cerebrals (मूर्धन्य), dentals (दन्त्य), and labials (ओष्ठ्य), respectively.

Sanskrit Vowels and Alphabets

Sanskrit grammarians possessed a deep understanding of phonetics and developed an alphabet in which every sound of the language is represented by a distinct letter. Each letter consistently carries the same phonetic value.

The Sanskrit vowels are:

a, ă, i, ĭ, u, ŭ, r, ř, i, į, e, ai, o and *au*

Of these *a, i* and *u* are simple short vowels.

ă*, i* and *û* are simple long vowels.

r and *ĭ* are short sonant liquids.

ř and *ĭ* are long sonant liquids.

The long 'ĭ' does not appear in any genuine Sanskrit word. The diphthongs 'e', 'o', 'ai', and 'au' are all treated as vowels in Sanskrit and are considered long. In fact, e and o are contractions of 'ai' and 'au', respectively.

- 'e' and 'o' have lost their diphthongal pronunciation in Sanskrit and are now pronounced as simple half-closed vowels

Simple vowels often interchange in derivation and in verbal or nominal inflection with their fuller or longer syllable forms. When a vowel is short, it may alternate with its long counterpart. A fuller or long syllable remains unchanged when it carries the accent, but is reduced to a simple or short vowel when it is unaccented. This type of variation is known as vowel gradation.

Sanskrit Consonants are-

Mutes or Explosives

Gutturals- *k, kh, g, gh*, कण्ठ्य
Dentals - *t, th, d, dh*, दन्त्य
Labials- *p, ph, b, bh,* ओष्ठ्य
} Primary

- Examples for Sanskrit consonants

Palatals- *c, ch, J, jh,* तालव्य – Derivatives
[Law of Palatalisation]

Cerebrals or retroflex sounds - *t th, d, dh*, मूर्धन्य Derivatives
[Fortunatov's Law]

(ङ) (न) (म) (ञ) (ण)

Nasals – '*n, n, m, n, n'* and अनुस्वार 'm' अनुनासिक 'm'.

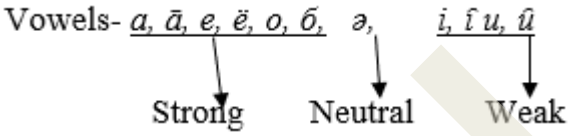
Liquids- '*r, l'*.

Semi vowels- '*y, y'*

Sibilants- '*ś, ş, s* '(श, ष, स respectively)

Aspirate- *h,* and विसर्ग *ḥ*

Indo-European vowels and Consonants



Sonant nasals- ***m, ṇ(ṇ, ň, m, ń, ň, ṇ)***

Sonant liquids- ***r, l (ř, ĺ)***

- Diphthongs or combinations of vowels with semi vowels

Diphthongs or combinations of vowels with semi vowels. They are:

'ąi', 'ãi', 'ęi', 'ei', 'oi', 'ôi', 'ai'

'au âu', 'éu', 'êu', 'oų', 'ŏų', 'ų'

Combinations of vowels with nasals and liquids were also very common. They are:

'am', 'an', 'em', 'êm', 'om', 'om',

'an', 'ân', 'en', 'ên', 'on', 'on',

'ar', 'år', 'er', 'er', 'or', 'or',

'al', 'al', 'el', 'él', 'ol', 'öl', 'al'.

The palatal and guttural sonant nasals, as well as the long sonant nasals and liquids indicated within brackets, are not universally accepted.

The Late Indo-European (L.E.) mother tongue had four series of vowels based on '*e, é, á'*, and '*ó'*. Brugmann and others assume the existence of both short *a* and *o* series, while Uhlenbeck considers the 'a' and 'o' series as the weak grade forms of the long '*a'* and '*á'* series.

Indo-European Vowels and Consonants

Semi vowels- ***I, u***

Nasals- ***m, n, n, n***

Liquids - ***r. l***.

Spirants - ***s, z, j, v, fo, ot, y.***

Explosives- Tenues -Tenues Aspirate –Media- Media Aspirate

Labials-	***p***	***ph***	***b***	***bh***
Dentals-	***t***	***th***	***d***	***dh***
Velars or				
Back Gutturals -	***q***	***qh***	***g***	***gh***
Middle Gutturals-	***k***	***kh***	***g***	***gh***
(Old) Palatals or				
Front Gutturals -	***k***	***kh***	***g***	***gh***

- Tenues aspirates and media asperates are compound consonants

Tenues aspirates and media asperates are compound consonants consisting of an explosive followed by 'h'. It should be noted that there are no cerebrals in the Indo-European parent language; however, three guttural series have been assumed for the following reasons:

(1) Sanskrit and some other Eastern Indo-European languages have spirants where most Western (European) languages have guttural sounds. For example, Sanskrit śatan corresponds to Latin centum; Sanskrit svaśuras to Latin socrus and Old Slavic svekry; Sanskrit janas to Greek genos, Latin genus, and English kin. To explain this difference in sound between Eastern and Western languages, philologists have proposed the existence of (old) palatals or front gutturals in the parent language.

(2) Where Sanskrit and other Eastern languages have a guttural or palatal sound, Greek, Latin, and other European languages often have a labial sound. For example, Sanskrit *gaus* corresponds to Greek *bous* and Latin *bos*.

Skt. *catvaras*. Goth. *fidwor.* Eng. *four.*

To explain this, Velars or back gutturals are assumed in the *I.E.* parent languages. These Velars when followed by a palatal vowel change into palatal in Sanskrit, eg:-

penge. Skt. *pañca*. Goth. *fimf.* Eng. *five.*

(3) There are instances where the guttural sound is preserved both in the Eastern and Western languages and to explain that the middle gutturals are assumed. E.g.,

Skt. *kushāras*. Lat. *Culter*

Skt. *kiṇas* Lat. *callus*

Summarised Overview

Phonology is the study of speech sounds and their distribution within languages. It examines how sounds are produced, perceived, and patterned.

In the production of articulate sounds, the primary factors are the breath and the organs of speech, such as the larynx, glottis, vocal cords, pharynx, uvula, palate, tongue, teeth, lips, and nose. When breath rushes through a narrow passage, it causes the vocal cords to vibrate, producing a distinct sound known as a voiced sound (Sanskrit: घोष, वर्गेषु तृतीयचतुर्थौ). Conversely, when the passage is wide open in the larynx and air passes without obstruction there but encounters obstruction somewhere in the mouth, it produces an unvoiced sound (Sanskrit: *अघोष, वर्गेषु प्रथमद्वितीयौ)*.

The obstruction in the mouth can be either partial or complete. A partial obstruction causes the breath to pass through a narrow opening, creating a hissing sound known as spirants, sibilants, or fricatives (Sanskrit: ऊष्माण:). A complete obstruction temporarily stops the breath, which is then released with an explosive sound, producing explosives. These sounds are classified into five groups:

The three primary classes: कवर्ग (velars), तवर्ग (dentals), and पवर्ग (labials)

The two derivative classes: चवर्ग (palatals) and टवर्ग (retroflexes)

Speech sounds are broadly divided into two types: sonants or vowels (स्वर) and consonants (व्यञ्जन). Vowel sounds are classified in two ways:

According to quantity (length)

According to quality (nature of the vowel)

Phonology is crucial for language teaching, speech therapy, and language documentation. It also has important applications in speech recognition technology, accent reduction, and language preservation.

Assignment

1. What is phonology, and what does it deal with?
2. Describe the role of the larynx and vocal cords in speech production.
3. What is the difference between voiced and unvoiced sounds?
4. Explain the classification of speech sounds into vowels and consonants.
5. Discuss the different types of consonants, including stops, spirants, and nasals.
6. Describe the production of vowels and consonants in terms of place and manner of articulation.

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SGOU

Unit : 2 Phonetic Changes

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ remember the evolution of Sanskrit language
- ❖ identify the basic concepts of linguistics
- ❖ recall the phonetic changes

Background

Languages are constantly evolving, shaped by the people who speak them. Linguistic change is a natural process that occurs over time and is influenced by various factors. Recognizing patterns of linguistic change can enhance language instruction and improve language acquisition. Phonetic change, a key aspect of linguistic change, involves modifications to a language's sound system and can be influenced by multiple factors.

Keywords

Phonetic, Semantic, Acoustic, Organic, Conditional, Unconditional, Gradual change, Combinative, Isolative, Analogy, Accent

Discussion

Linguistic Change

The Indo-European (I.E.) vowels are represented in Sanskrit, where the role of accent in strengthening and weakening vowels causes various vowel changes. Similarly, the I.E. consonants are also represented in Sanskrit. Linguistic changes occur over time, but these phonetic changes are governed by definite laws within the Indo-European family of languages.

All spoken languages are in a constant state of change. Linguis-

- Linguistic change is classified under two heads- Phonetic change and Semantic change

tic change can be broadly classified into two categories: (1) phonetic change and (2) semantic change. A phonetic change involves a change in the form or sound of a word without altering its meaning. In contrast, a semantic change occurs when the meaning of a word changes while its form remains the same.

Classification of Phonetic Change

Phonetic changes can be classified into two main types: (1) acoustic changes and (2) organic changes.

Acoustic changes occur due to defective hearing. For example, the change of Sanskrit व (va) into ब (ba) in Hindi or Bengali, or the change of dental 'th' or 'dh' into labial 'ph' in Latin and some other languages (e.g., Sanskrit dhama → Latin fümas).

Organic changes result from defects or misadjustments in the speech organs. For instance, pronouncing candana as *cannana* or jñana as ñana involves incorrect positioning or movement of speech organs.

The key difference between acoustic and organic changes is that, in acoustic changes, a sound is produced from a different place of articulation than its original one (e.g., ph replacing dh), whereas in organic changes, one sound is replaced by another sound produced at the same place of articulation (e.g., 'n' replacing 'd').

Some changes, such as the shift of व into ब, can be considered partly acoustic and partly organic. Similarly, the Malayalam pronunciation of *tålparyam* instead of *tarparyam* can also be treated as a combination of both acoustic and organic changes.

A second classification of phonetic change divides it into (1) isolative change and (2) combinative change.

Isolative change occurs in a single letter, such as the change of '*k*' into '*s*' in *kmtom* → Sanskrit *satam*.

Combinative change involves two or more letters, as seen in Sandhi examples like *rama* + *isah* = *ramesah* or *vidvas* + *bhyām* = *vidvadbhyām*. All Sandhi changes in Sanskrit are examples of combinative change.

A third classification of phonetic change is into (1) conditional and (2) unconditional changes.

- Third classification of phonetic change is Conditional and Unconditional

Unconditional phonetic change refers to a change that an individual sound undergoes without being influenced by the specific kinds of accompanying sounds or accent. In contrast, conditional change occurs when such influences are present.

For example, the change of Indo-European (I.E.) velars and middle gutturals into palatals in Sanskrit, when occurring near a palatal vowel, is a conditional change. This can be seen in *penqe* → Sanskrit *pañca* and *kieueai* → Sanskrit *cyavate*, following the law of palatalization.

On the other hand, the change of I.E. *e* into Sanskrit *a* is an unconditional change, as it happens regardless of the surrounding sounds.

A fourth classification of sound change divides it into (1) gradual and (2) sudden changes. Most conditional changes and combinative changes tend to be sudden, while isolative changes are usually gradual.

Causes of Phonetic Change

The following may be regarded as the main causes of phonetic change:

- The main causes of phonetic changes

1. Imperfect hearing and imperfect reproduction of a word or sound, such as भ्मर for भ्रमर and त्रियम्बक for त्र्यम्बक.
2. Producing new sounds by analogy with other sounds - for example, the lengthening of '*a'* in *ekadusa* on the analogy of *dvadasa*, where the long *a* is legitimate.
3. Ease or economy of effort is another important cause of phonetic change. For example, forms like *råjna*, *premnå*, etc., instead of *rajan* + *a* = *rajana* and *preman* + *a* = *premaṇa*, occur for simplicity. Similarly, pronouncing *knife* as *nife* in English and the change of Old English *coverchef* into *kerchief* are due to the desire to reduce effort. The reduction of various Vedic infinitive forms such as गन्तोः, गन्तवे, गमध्यै, कर्तवे, कर्तोः to the single infinitive form कर्तुं, गन्तुं in Classical Sanskrit also illustrates this principle.
4. Accent influences sound change by shifting from one part of a word to another. For instance, the accented '*a'* in the root '*stha'* changes to '*i'* in '*sthita'* as a result of the accent shifting to the suffix *to*.

Moreover, contact with speakers of other languages, modifications of the speech organs, the instinct of imitation, climate, environment, heredity, mixing of races and cultures, and general variability in pronunciation are other causes of linguistic change.

Summarised Overview

There are two main types of linguistic change: (1) Phonetic change, which involves a change in the form or sound of a word without any change in its meaning, and (2) Semantic change, which involves a change in the meaning of a word without any change in its form.

Phonetic changes can be classified into several types: (1) Acoustic change, caused by defective hearing; (2) Organic change, caused by defective speech organs; (3) Isolative change, which occurs in a single sound; (4) Combinative change, which involves two or more sounds; (5) Conditional change, influenced by surrounding sounds or accent; (6) Unconditional change, occurring without any specific influence; (7) Gradual change, which happens over time; and (8) Sudden change, which takes place abruptly.

The main causes of phonetic change include imperfect hearing and reproduction, analogy, ease or economy of effort, accent, contact with other languages, modification of speech organs, instinct of imitation, climate, environment, heredity, mixing of races and cultures, and the general variability of pronunciation.

Assignment

1. What are the two main types of linguistic change?
2. How does phonetic change differ from semantic change?
3. What role does accent play in linguistic change?
4. What is the difference between acoustic and organic change?
5. Provide an example of combinative change in phonetics.
6. How does the law of palatalization illustrate a conditional change?
7. How can imperfect hearing lead to linguistic change?
8. What role does analogy play in phonetic change?

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SGOU

SGOU

Unit : 3 Phonetic Laws

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- examine the evolution of Sanskrit language
- remember the basic concepts of linguistics
- comprehending aspects of Sanskrit grammar from linguistic perspective
- analyze the different types of phonetic laws

Background

A phonetic law is a statement describing regular patterns or uniformities in language change, especially regarding sound changes. These laws are based on careful observation of linguistic facts and highlight consistent tendencies in how sounds evolve over time. Phonetic laws play a crucial role in reconstructing parent languages and studying the evolution of languages. Understanding these laws helps explain language change and variation. Although phonetic laws generally hold true, exceptions may occur, often explained by other linguistic principles such as analogy.

Keywords

Phonetic Law, Linguistic, Comparative, Historical Study, Dialects, Comparative Philology, Analogy

Discussion

Phonetic Laws

- The science of comparative philology can, to some extent, re-construct the lost parent language

Most linguistic changes occur so gradually that speakers are often unaware of them as they happen. Even changes resulting from conscious innovation usually stem from natural tendencies or general needs, as otherwise they would not be widely adopted by the majority of speakers. Additionally, if a single speaker alters the language in a unique way, such changes will likely be unintelligible to others and, therefore, will not be accepted or adopted by the community. This implies that language change tends to be uniform and regular overall. Consequently, through comparative and historical study of languages, it is possible to formulate definite laws of linguistic change and explain variations found in dialects and related languages. In this way, the science of comparative philology can, to some extent, reconstruct the lost parent language of families such as the Indo-European.

What is a Phonetic Law?

- The phonetic laws have a large number of exceptions which may be explained by some other laws or principles

In the realm of science, the term law refers to a clear and precise statement describing certain uniformities based on careful and accurate observation of facts. The same largely applies to phonetic laws, which make definite statements about regular patterns in language. However, unlike natural laws, phonetic laws have many exceptions. These exceptions can often be explained by other linguistic principles or laws operating within the language. Among these, analogy is the most important principle.

- Tucker defines phonetic law

Tucker defines a phonetic law as follows: "A phonetic law of a language is a statement of a regular practice of that language at a particular time in regard to the treatment of a particular sound or group of sounds in a particular setting." This definition clearly indicates that a phonetic law operates within a specific language, during a specific period, and in a specific context, concerning a single sound or a group of sounds.

The Law of Palatalisation

- Law of Palatalisation explains the change of gutturals to palatals in Sanskrit

Sanskrit sometimes has the palatal sounds '*c*' and '*j*', whereas Western Indo-European (I.E.) languages often have the guttural sounds '*g*' and '*gh*' in corresponding positions. Upon closer examination, it was found that where Sanskrit '*a*' corresponds to the *e* in Western I.E. languages, there is an *e* before the Sanskrit '*a*', and 'a *k*' or '*g*' before the *e* in Western languages. For example, where Sanskrit has '*ca*', Latin has '*que*'. However, when Sanskrit *a* cor-

responds to the '*o*' in Western I.E. languages, Sanskrit retains the guttural sound, similar to the Western languages. For instance, Latin *coxa* corresponds to Sanskrit *kaksha*. This change of gutturals into palatals in Sanskrit in certain contexts is explained by the law of palatalisation, which demonstrates that this change follows a strict linguistic rule.

The Law of Palatalisation was discovered by Wilhelm Thomsen, who first mentioned it in 1895.

In the Western I.E. languages, namely Greek, Italic, Germanic, and Celtic, the velars were labialised, and the middle gutturals merged with the (old) palatals. In the Aryan, Armenian, Albanian, and other Eastern I.E. languages, the velars were not labialised but merged with the middle gutturals, while the (old) palatals or front gutturals were changed to spirants. The Law of Palatalisation formulated as follows:

- Law of Palatalisation may be summarised as-

"During the Aryan period, before the change of Primitive Indo-European *e* into *a*, the I.E. Velars and Middle Gutturals were changed into Palatal explosives (affricates) when followed by the palatal vowels and semi-vowels - *e*, *i*, and *ī* - in the Aryan languages (and were preserved as gutturals in any other position)." This law may be summarized as follows:

During the	*q, qh, g, gh*	followed by
Aryan period	*k, kh, g, gh*	*e, i* and *i*
Changed in		

Aryan into '*c, ch, j, jh*' before *e* changed, into '*a*'. After this change, '*e*' passed into Sanskrit '*a*'.

Examples:-

I.E.	Sanskrit	Latin
qe	ca	que
qerus	carus	
Qetuõres	catvaras	quatour
Kukis	sucis	
Kleuetai	cyavate	
Penqe	pañca	quinge
Auges	ojas	
Géretaijarate		
Qid	cid	

In these examples, the I.E. Velars and Middle Gutturals are palatalised in Sanskrit. In other cases, when not followed by a palatal vowel or semi-vowel, they are not palatalised but remain as gutturals. Examples:

kakud >	Skt.	kakud
kalos >	"	kälas
qasatai >	"	kasate
agåt >	"	agåt
qoteros >	"	kataras
jugom >	"	yugam
dolghos >	"	dirghas
gous >	"	gaus
kukros >	"	śukras.

This law of palatalisation is a good example of a phonetic law as defined by Tucker. In the definition, the clause "before the change of e into a" is very significant because, once e changes into a, there will be no palatal vowel following the guttural to palatalise it.

The discovery of this law had a decisive influence in formulating the modern vowel theories, according to which the multiplicity of vowels in the European and Armenian languages is more original than the Aryan simplicity.

Fortunatoy's Law

or

The Origin of Cerebrals (or Retroflex Sounds)

- The P.I.E. dentals in combination with 'l' became cerebrals in Indo-Aryan, but in combination with 'r', they did not undergo the change -

In Sanskrit

Cerebral sounds 'ṭ, ṭh, ḍ, ḍh' are found in Sanskrit, but they are not present in any other branch of the Indo-European family, including Avesta. Fortunator's law regarding dentals with the liquid l may be formulated as follows:

"The Proto-Indo-European dentals in combination with 'l' became cerebrals in Indo-Aryan, but in combination with 'r', they did not undergo the change."

This law can be summarised as follows:-

l + dental > cerebral,
r + dental remain unchanged } in Aryan languages

Examples of-

l+, dental > Skt., cerebral.

*pal.os > Skt. patas

kulih- > " kuthāras Lat. culter

palnis > " panis " palma

ualni > " vani Goth walus

bhäls-> " bhāsate bhaşati - Lith. Balsas

lals- > " lashami Goth. lustus

gholto-> " hatakam Goth gulp zlato

Osław

Examples of – r + dental remaining unchanged-

karto > Ved. kartami Lith. kertu

merdo > Skt. mardami Lat. mordea

ardhos > " ardhas Lith. ardyti

There are some exceptions to Fortunatov's law which explained as Präkrtisms by Uhlenbeck. For example:-

kortus > Skt. katus Lith. kartus

bhertos > " bhajas

nerto > " nata, nartaka

There are other exceptions like at Skt. atami, bhen > Skt. bhanami etc. changed into cerebrals in Sanskrit. These exceptions too explained as through Prakrtic influence.

Coldwell's Theory

Bishop Caldwell, based on extensive research in Dravidian languages, proposed that Sanskrit borrowed the cerebral sounds from Dravidian languages, and from Sanskrit, these sounds were transmitted to the Prakrits. The following reasons support this theory:

- Sanskrit cerebrals have a natural development from Proto-Indo-European dentals preceded by certain sounds

- None of the Indo-European languages, except the Aryan group, have cerebral sounds, whereas all Dravidian languages possess them.
- Cerebral consonants are essential components of many primitive Dravidian roots. For example, in Tamil, they are crucial to distinguish words like *puṭai* from *putai* or *pukai*.

- It cannot be argued that Dravidian languages borrowed the cerebral sounds from Sanskrit, because Tamil - which is the least influenced by Sanskrit - makes more frequent use of cerebral sounds than Sanskrit, Telugu, or Kannada.
- Just as the word '*min'* was borrowed from Tamil and used freely as if it were a Sanskrit word, similarly, the cerebral sounds were borrowed from Tamil and assimilated into Sanskrit.

Coldwell's theory cannot be accepted because cerebral consonants are found in Vedic Sanskrit, which could not have been influenced by Tamil. Moreover, Fortunatov's law clearly shows that Sanskrit cerebrals naturally developed from Proto-Indo-European dentals preceded by 'l'. Furthermore, according to the Tamil grammarian Tolkapinar, Tamil t and ṭ are produced by the tip of the tongue touching just above the gums, whereas Sanskrit cerebrals are produced by rounding the tongue and making it touch the roof of the palate. Fortunatov's law satisfactorily explains the origin of cerebrals in Sanskrit, and it is reasonable to attribute any exceptions to Prakritic influence.

- Sanskrit borrowed cerebral sounds from Dravidian languages, which then spread to Prakrits

Burrow gives some other explanations for certain cerebrals in Sanskrit.

(1) P.I.E. dental explosives when preceded by s became cerebral explosives in Sanskrit:-

e.g. *uersti* > Skt. *vrsti*

tistho> " *tisthāmi*

nisdo > " *nida*

misdhos> " *midhas*

(2) The first part of the combinations Sanskrit. '*ss'* becomes '*t'* in Sanskrit

e.g. *duiss* > Skt. *dvit (s)*

- Cerebrals developed from Proto-Indo-European dental explosives preceded by certain sounds. preceded by certain sounds

(3) The dental '*n'* becomes *'n'* in Sanskrit when preceded by '*r, s'* or in the same word.

e.g. *dhrsneumi* > Skt. *dhrsnomi*

(4) The cerebrals in *Bhata, Bhatta* etc. are due to Prakrtic influence or borrowed from Präkrts.

(5) The cerebrals in *kathina, pinda* etc. are by Dravidian influence or loans from Dravidian languages.

Grimm's Law

The law refers to the sound changes in the Germanic languages

that occurred in two distinct periods. The first stage took place in the prehistoric period, while the second stage occurred around the seventh century. These two stages are called the first and second sound shifts.

Grimm's Law may be formulated as follows:

Indo-European *tenues*, *media*, and *aspirates* (*k, t, p*; *g, d, b*; and *gh, dh, bh*) changed into *aspirates*, *tenues*, and *media* (*h, th, f*; *k, t, p*; and *g, d, b*) in Low German. Then, in High German, they further changed into *media*, *aspirates*, and *tenues* (*g, d, b*; *kh, th, ph*, *ch, z, f*; and *k, t, p*).

Put in formula form, it may look like this:

I.E	Gothic Low German I. Sound shifting	High German II. Sound shifting
k, t, p >	*h, th, f* >	*g, d, b*
g, a, b >	*k, i, p* >	*kh, th, ph ch, z, f*
gh, dh, bh>	*g, d, b* >	*k, t, p.*

This law clearly demonstrates how a phonetic law functions at a particular time in a particular language.

Examples :-(1) *k, t, p* > *h, th, f.*

Examples (2) *g, d, b* > *k, t, p.*

Examples (3) *gh. dh, bh* > *g, d, b.*

There are some clear exceptions to Grimm's Law such as -

I.E.	Skt.	Goth.	Eng.
Ivenkos	*yuralas*	*jungs*	*young*
Septon	*sapta*	*sibun*	*seven*
Kmtom	*satam*	*hunda*	*hundred*
Bendh	*bandh*	*binda*	*bind*

In the above instances, *k, t, p*, and *b*, which according to Grimm's Law should have changed into *h, th, f*, and *p* respectively, have instead become *g, d, b*, and *b*. The first three of these exceptions are explained by Verner's Law, while the last one is explained by Grassmann's Law.

Verner's Law

- Verner formulated a law after examining many instances

Verner discovered that the operation of Grimm's Law depended on the position of the accent. He showed that Grimm's Law holds true with regard to the consonants that followed the principal accent, as in Indo-European *bhárdter* changing into English *brother*, but does not hold true in the case of consonants which preceded the accent, as in *máter* becoming German *Mutter*. After examining many such instances, he formulated a law as follows:

In the middle or end of Indo-European words, if the immediately preceding vowel did not bear the principal accent, '*k, t, p'* did not become '*h, th, f'* (as Grimm's Law states) but instead changed into *g, d, b* (a double shift) in Teutonic (Germanic) languages and *r* in some cases, except in the combinations '*ht, hs, fs, sk, st,* and *sp'*.

Examples:

I.E.	Skt.	Latin.	Gothic.	English.
Ivenkós	yuvajas	juvencus	juggs	young
Kmtóm	šatám	centum	hunda	hundred
Septón	sapta	septem	sibun	seven
Snuså	snupd	-	-	snoru (O.E.)

Thus, most of the exceptions to Grimm's law were explained by Verner's law. It may be noted that Grimm's Law and Verner's law do not operate in Sanskrit language.

Grassmann's Law of De-aspiration

- Grassmann's Law was presumed that the I.E. aspirates, media and tenues remained unchanged in old classical languages

This law explains some instances that seemed to be exceptions to Grimm's Law. It was previously assumed that the Indo-European aspirates, media, and tenues remained unchanged in old classical languages like Sanskrit, Greek, and Latin. For example, in place of Sanskrit *badhnāmi* and *bodhāmi*, it was assumed that the Proto-Indo-European forms were *badhnōmi* and *beudhō*. According to Grimm's Law, the initial '*b'* in these words should correspond to '*p'* in Germanic languages. However, '*b'* is actually retained in those languages - Germanic '*binda'*, English '*bind'*. Thus, this appeared as an exception to Grimm's Law.

Hermann Grassmann explained this phenomenon through another law, known as Grassmann's Law of De-aspiration, which states that in Sanskrit and Hellenic languages, if two consecutive syllables contain aspirates, the first aspirate is de-aspirated. According to this law, the Proto-Indo-European forms of Sanskrit *badhnāmi* and *bodhāmi* should be reconstructed as *bhṇdhnōmi* and *bheudhō*. The initial '*bh*' then becomes '*b'* in Germanic *binda* according to Grimm's Law.

Thus, all apparent exceptions to Grimm's Law have been satisfactorily explained by Verner's Law and Grassmann's Law.

Examples of Grassmann's law operating in Sanskrit-

Bheudhō > bodhāmi.

Dhidhemi > dadhāmi

Ghrdhiō > grdhyāmi

Gheghona> jaghāna.

Summarised Overview

Phonetic laws help us understand the evolution and development of languages by demonstrating regular patterns in language change. Some important phonetic laws include:

1. The Law of Palatalisation: During the Aryan period, Indo-European velars and middle gutturals changed into palatal explosives (affricates) when followed by palatal vowels or semi-vowels (*e, i, ī*). This change occurred in Sanskrit, resulting in sounds like '*c*' and '*j*', whereas other Indo-European languages retained the original guttural sounds. For example:
   - Indo-European (I.E.) *qe* (four) > Sanskrit *ca* (चतुर्)
   - I.E. *penqe* (five) > Sanskrit *pañca* (पञ्च)
2. The law describes how Indo-European velars (*q, k*) and middle gutturals ('*g*', '*gh*') changed to palatal sounds (*c, j*) when followed by palatal vowels or semi-vowels.

Fortunatov's Law: Explains the origin of cerebral consonants in Sanskrit, where the combination of Proto-Indo-European dentals with '*l*' became cerebrals in Indo-Aryan languages, but when combined with '*r*', this change did not occur. Formulated as:

"The P.I.E. dentals in combination with 'l' became cerebrals in Indo-Aryan, but in combination with 'r', they did not undergo the change."

3. Grimm's Law: Describes the systematic consonant shifts that occurred in the Germanic languages, such as the change of Indo-European voiceless stops to voiceless fricatives.
4. Verner's Law: Explains exceptions to Grimm's Law by showing that the position of the accent influenced certain sound changes.
5. Grassmann's Law: Describes the process of de-aspiration where, in Sanskrit and Hellenic languages, if two aspirated sounds occur consecutively, the first loses its aspiration.

Assignment

1. What is a phonetic law, and how does it operate in language?
2. Explain the Law of Palatalisation and its significance in the development of Sanskrit.
3. How does the Law of Palatalisation explain the change of gutturals to palatals in Sanskrit?
4. Describe Fortunatov's Law and its role in explaining Sanskrit cerebrals.
5. What is Grimm's Law, and how does it relate to sound changes in Germanic languages?
6. Provide examples of the sound changes described by Grimm's Law.
7. How do Verner's Law and Grassmann's Law explain exceptions to Grimm's Law?What role does accent play in Verner's Law?
8. What is Grassmann's Law of De-aspiration, and how does it apply to Sanskrit and Hellenic languages?
9. Provide examples of Grassmann's Law operating in Sanskrit.
10. How do these phonetic laws contribute to our understanding of language evolution and change?
11. Compare and contrast the different phonetic laws discussed.

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SGOU

Unit : 4 Analogy

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- describe the Evolution of Sanskrit language
- examine the basic concepts of linguistics
- define the classification of Analogy and Analogical changes

Background

Analogy is a linguistic process that involves comparing two things based on their similarities, often used to explain or simplify complex concepts. In language, analogy plays a crucial role in regularizing and unifying grammatical structures, thereby reducing irregularities and complexity. It allows speakers to form new words or modify existing ones based on familiar patterns, making the language more systematic and easier to learn. There are three main types of analogy. Formal analogy occurs when the form of a word is changed following the pattern of another word, such as forming "helped" from "jumped." Logical analogy involves modifying one form of a word based on another form within the same word, as in deriving "ran" from "run" like "sat" from "sit." Proportional analogy creates new words by drawing relationships between existing word pairs, such as "king : kings :: queen : queens." These analogical changes contribute significantly to language development and evolution.

Keywords

Analogy, Formal Analogy, Logical Analogy, Proportinal Analogy, Genitive Singular, Stem, Grimm's Law , Accent , Reflective Pronoun, Nominative Singular, Numeral Formation, Case Formation, Neuter Noun Formation , Verbal Formation, Compound Formation, Accusative, Dative , Inflexion, Syntax Dynamic Nature, Compounds, Sandhi

Discussion

Analogy

Analogy in linguistics refers to the process of creating new words or grammatical structures by extending existing patterns or relationships within a language. It involves applying a familiar rule or form from one set of words to another, often to regularize irregular forms or simplify the overall linguistic system. This process helps maintain consistency and predictability in language development.

- Analogy is a principle that explains linguistic changes based on the association of ideas or impressions of words

Analogy is a linguistic principle that accounts for certain language changes through the association of ideas or impressions connected to words. It plays a significant role in simplifying language by unifying grammatical structures and reducing irregularities. By extending familiar patterns or forms from one set of words to another, analogy helps create consistency across the language system. These extensions are often guided by semantic relationships, allowing speakers to form new words or grammatical forms that align with existing, more familiar ones. This process contributes to the regularization and evolution of language over time.

Analogy is closely connected to the semantic aspect of language, where meanings and associations between words play a crucial role in shaping linguistic structures. As an important principle of linguistic change, analogy influences the evolution of languages by promoting regularity and pattern-based formations. It allows speakers to modify or create forms based on familiar patterns, thereby simplifying complex or irregular structures. Over time, this process contributes to the standardization and development of language. Understanding the role of analogy enables linguists to better analyze and interpret the underlying mechanisms of language change, revealing the intricate ways in which meaning, structure, and usage interact in the evolution of linguistic systems.

Classification of Analogy

- The words of one category influencing the words of another category, it is called formal Analogy

Analogy is difficult to define systematically because of the various ways in which it operates in language. However, broadly speaking, analogy can be classified into three types: (1) Formal Analogy, (2) Logical Analogy, and (3) Proportional Analogy.

Formal Analogy- When one form of a word is changed through the analogy of a form from another word - specifically, when words of one category influence the forms of words in another category - it is called formal analogy. For example, the word *pati* belongs to the class of '*i*'-stems like *hari*, and therefore, its genitive singular form

should be *pateḥ*, like *hareḥ*. However, the actual form used is *patyuḥ*. This deviation is due to the influence of words denoting family relationships - such as *mātā*, *pitā*, *bhrātā*, etc. - which are *r*-stems and have genitive singular forms like *mātuḥ*, *pituḥ*, and *bhrātuḥ*. Since *pati* also denotes a familial relationship (i.e., "husband"), it adopts the genitive form *patyuḥ* by analogy with these '*r*'-stem words. A similar case is seen with *sakhyuḥ*, which follows the same analogical pattern.

when examine the forms like

- Examples of formal Analogy

I.E .	Skt.	Latin	English
Bhråter	*bhrata*	*frater*	*brother*
Petèr	*pitů*	*pater*	*father*
Matér	*mäta*	*mater*	*mother*

Brother is an example of Grimm's Law, as the '*t*' sound in the Indo-European root follows the principal accent and thus becomes *th* in English. In contrast, in *father* and *mother*, the '*t*' precedes the principal accent, and according to Verner's Law, it should change into '*d*', giving us the forms *fader* and *moder*, which are indeed found in Old English. However, in Modern English, the '*d*' in these words has changed to *th*, resulting in *father* and *mother*. This change is due to analogy - since *brother*, a word also denoting family relationship, already had *th* by Grimm's Law, the forms *father* and *mother* were later modified to align with it, creating uniformity among kinship terms. Thus, while *brother* is an original result of Grimm's Law, *father* and *mother* show a secondary change influenced by analogy.

- If one form of a word in changed through analogy of another form of the same word, it is called Logical Analogy

Logical Analogy- If one form of a word is changed through the analogy of another form of the same word, it is called Logical Analogy. In this type of analogy, the forms within the same grammatical category influence each other. For example, consider the Sanskrit stems '*diś*' and '*viś*' (from the Indo-European roots *dik* and *vik*). The Indo-European '*k*' is generally represented by '*ś*' in Sanskrit, which changes to *k* in combination with '*s*', and to '*d*' in combination with '*bh*'. Therefore, the expected forms should be: in the nominative singular, *diś* + *s* = *dik* and *viś* + *s* = *vik*; and in the instrumental dual, *viś* + *bhyām* = *vidbhyām* and *diś* + *bhyām* = *didbhyām*. However, the actual forms are '*dik*' and '*vid*' in the nominative singular, and *digbhyām* and *vidbhyām* in the instrumental dual. This variation is explained by analogy: in the case of *dik*, the nominative form is considered regular, and the instrumental form *digbhyām* is analogically formed from it. In contrast, with '*vid*', the instrumental form is taken as standard, and the nominative '*vid*' is formed by analogy. Thus, one form of a word has influenced another form of the same word,

illustrating logical analogy.

The lengthening of the a in bhavavah and bodhamah, by analogy with bhavami and bodhami, is another example of logical analogy. In bhavami and bodhami, the first-person singular suffix -mi is added to the long stems bhava and bodha. According to the rule of सवर्णदीर्घ(savarṇadīrgha), the stems lengthen the vowel, resulting in bhāva and bōdha, to which -mi is added by analogy with non-thematic stems like ad + mi = admi. This process shows how one form of a word influences another form within the same paradigm, exemplifying logical analogy.

Proportional Analogy - It refers to the creation of a new word that stands in a specific relationship to an existing word, mirroring the relationship between two other words. This type of analogy is based on a psychological sense of proportion or symmetry. A good example can be seen in the personal pronouns of the German language. In old German dialects, the first-person accusative was *mich* and the dative *mir*, while the second-person forms were *dich* (accusative) and *dir* (dative). For the third person, there was only *sich* used for both accusative and dative. Later, by proportional analogy with the first and second person pronouns, *sir* was coined as a dative form of *sich*, to maintain the same relationship that *mir* and *dir* have to *mich* and *dich*. This illustrates how new forms can emerge by following existing proportional patterns in a language.

- New word already existing word in the same relation as two other words stand to each other, is called proportional

1. In Sanskrit, words feature both short and long '*r*' sounds, as seen in examples like *pirbhih* (with short *r*) and *pitrnam* (with long *r*). Additionally, the short '*l*' appears in words such as *klpta*. However, throughout the entire Sanskrit language, the long '*l*' sound is not found in any word.

Eg. *mich, mir, dich, dir-- sich, sir---r, l,r,l*

Analogical change does not affect the pronunciation of language as phonetic change does, but it primarily influences the formation of words, inflection, syntax, and meaning.

Further examples of Analogical changes:

The Sanskrit word "ukṣan" and its English counterpart "oxen" originally referred to both singular and plural forms. Over time, the suffix "-en" became detached and adopted as a plural marker. The plural form "oxen" then influenced the creation of other plural nouns, such as "children" and "brethren." This "-en" suffix sometimes replaced other plural endings in English. Similarly, German forms like "freen" and "booken" (meaning "tree" and "book") demonstrate this emerging pattern. These examples highlight the dynamic nature of

- Another examples of Analogical changes of plural forms

language, showing how words and grammatical structures evolve over time through analogy and other linguistic processes.

2. The long "ā" in ekādaśa is believed to result from analogy with dvādaśa, where the long "ā" is etymologically justified. Dvādaśa is composed of *dvi* (two) and *daśa* (ten), with the dual suffix influencing the lengthening of the "a". This lengthened "ā" in dvādaśa was extended by analogy to ekādaśa (one + ten), even though there is no intrinsic reason for lengthening in ekādaśa itself. This example demonstrates how analogical change influences word formation in Sanskrit, highlighting the intricate and evolving nature of language development.

- Another examples of Analogical changes of Numeral

3. *agni+visu* should be *agniviṣnü* but we have the Vedic form *agnavisnü.* Here the '*a'* in the place of '*i'* is on the analogy of *indragni* where the long '*a'* is legitimate.

4. The instrumental, dative, genitive, and locative singular forms of feminine nouns ending in '-a', such as *priyayā*, *priyayai*, *priyāyah*, and *priyayam*, are formed by analogy with feminine nouns ending in '-i' , like *devyā*, *devyai*, *devyah*, and *devyam*. In the latter, these forms are legitimately created by adding the terminations -ā, -ai, -ah, and -am to *devi* (e.g., *devi* + *ā* = *devyā*). The expected forms for feminine nouns ending in '-a' would normally be *priya* + *ā* = *priyā*, etc. However, the sequences *-yā*, *-yai*, *-yah*, and *-yam* in the feminine nouns ending in '-i' were mistaken as terminations themselves. Based on this misunderstanding, forms like *priyayā*, *priyayah*, etc., were analogically created.

- Another examples of Analogical changes of Case formation

5. In Sanskrit, neuter nouns ending in "a" originally had nominative plural forms with a lengthened final vowel, such as *viśvā*. However, neuter nouns ending in "ā" had plural forms with the suffix "i," as seen in *nāmāni*. Over time, neuter nouns ending in "a," like *bhuvana*, adopted the plural pattern of nouns ending in "ā," resulting in forms such as *bhuvanāni*. In Vedic Sanskrit, both the original and analogical plural forms coexisted, but by the classical Sanskrit period, the analogical forms like *bhuvanāni* became standard, replacing the original forms such as *bhuvanā*. This shift exemplifies how analogy influenced the evolution and regularization of noun declensions in Sanskrit.

- Another examples of Analogical changes of Neuter noun formation

The forms *napta*, *naptáram*, *napira*, *naptre*, etc., of the '*t'*-stem *nupat* are formed by analogy with stems denoting family relationships. The original forms were *napât*, *napatam*, and so on. This analogical formation reflects the influence of familiar patterns on word formation, where the '*t'*-stem endings were adapted to resemble those of kinship terms, leading to the modified forms seen in the language.

- Another examples of Analogical changes of Verbal formation

6. Analogy in Verbal Formation: The root *nī* (णी प्रापणे) forms its Aorist conjugation with expected forms like *anaih* for the 2nd and 3rd person. However, the actual forms *anaiṣīḥ* and *anaiṣīt* show influence from the *ṣiṣ* Aorist pattern (e.g., *ayaṣiḥ* and *ayāṣīt*). This analogical change illustrates how language evolves dynamically, with patterns from one verbal paradigm influencing the formation of forms in another. Such analogical adaptations highlight the fluidity of morphological processes in Sanskrit. (Further details on the formation of various Aorist forms are provided in verbal morphology.)

7. Analogy in Compounds: The words *vana* and *ratha* compounded with *pati* would normally form *vanapati* and *rathapati*. However, the actual forms *vanaspati* and *rathaspati* appear by analogy with *brhaspati*, where the '*s'* before *pati* is legitimate. This analogical insertion of '*s'* demonstrates how existing word patterns can influence the formation of new compounds in Sanskrit.

- Another examples of Analogical changes of Sandhi formation

8. Analogy in Sandhi: Sandhi refers to the phonetic changes that occur when two words or morphemes come together, making pronunciation smoother and easier. It can be internal, occurring within a word between roots, stems, and suffixes, such as in *rama* + *au* becoming *rămau* or *rama* + *bhyam* becoming *ramabhyam*. Sandhi can also be external, happening between two separate words, like *ganga* + *udakam* forming *gangotakam* or *rama* + *isah* becoming *ramesh*. Analogy plays a significant role in Sandhi by influencing how patterns from one group of words affect the application of Sandhi in others. This analogical influence helps regularize and simplify Sandhi rules, making pronunciation more consistent and predictable across different word forms.

For example, in internal Sandhi, *vidvas* + *bhi* becomes *vidvadbhih*, while in external Sandhi, *manas* + *bharah* becomes *manobharah*. According to internal Sandhi rules, *manas* + *bhih* should be *manadbhih*, similar to *vidvadbhih*. However, the existing form *manobhih* is actually formed by analogy with the external Sandhi pattern seen in *manobharah*. Similarly, by analogy with the external Sandhi *tat* + *na* becoming *tanna*, the internal Sandhi forms *svid* + *na* = *svinna* and *bhid* + *na* = *bhinna* have been formed. These examples illustrate how analogy influences the application of Sandhi, creating regularity across different contexts.

Summarised Overview

Analogy is the process of forming new words or grammatical structures by extending existing patterns or relationships within a language. It can be classified into three types: Formal Analogy, Logical Analogy, and Proportional Analogy. Formal Analogy occurs when one form of a word changes based on the pattern of another word, often across different categories, as seen when *pati* is influenced by family-related words like *mātā* and *pitā*. Logical Analogy involves changes within different forms of the same word, such as the mutual influence between *dik* and *vid*. Proportional Analogy forms new words based on the relationship between two existing words, exemplified by German pronouns like *sich* and *sir* modeled after *mich*, *mir*, and *dich*, *dir*. Analogy simplifies language by unifying grammatical systems and reducing complexity, shaping word formation, inflection, syntax, and meaning. Examples include plural formations like *oxen*, numeral formations like the long "ā" in *ekādaśa*, compound formations such as *vanaspati*, case formations in feminine nouns, neuter noun plurals like *bhuvanāni*, verbal forms influenced by other conjugations, and the regularizing role of analogy in Sandhi rules.

Assignment

1. What is analogy in linguistics, and how does it contribute to language development?
2. What are the three types of analogy, and how do they differ from each other?
3. Can you provide examples of formal analogy, logical analogy, and proportional analogy?
4. How does analogy influence word formation, inflection, syntax, and meaning in a language?
5. How does the Sanskrit word ***pati*** illustrate formal analogy?
6. Explain the logical analogy observed in the Sanskrit stems dis and vis.
7. Describe the proportional analogy in German personal pronouns, particularly the formation of 'sir' as a dative form of ***sich***.
8. In what ways does analogy simplify language and reduce complexity?
9. What role do semantic relationships play in analogy?
10. How does analogy differ from phonetic change in its effects on language?
11. What is Sandhi, and how does analogy influence its application?
12. Provide examples of internal and external Sandhi in Sanskrit.

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Space for Learner Engagement for Objective Questions

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SGOU

BLOCK-03

Morphology and Semantics

Block Content

Unit : 1

Morphology Primary and Secondary Suffixes

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- describe the Evolution of the Sanskrit language
- examine the basic concepts of linguistics.
- comprehending aspects of Sanskrit grammar from a linguistic perspective
- remember the classification of Morphology

Background

The word philology means the science of the structure and development of language. Linguistics is the modern term for philology. The Science of Language or Comparative Philology is divided into four main branches. They are- 1. Phonology (शब्दोत्पत्तिविपरिणामप्रकारविचारः)। 2. Morphology (पदनिष्पत्तिप्रकारविचारः) । 3. Syntax (वाक्यरचनाप्रकारविचारः)। 4. Semantics (अर्थविपरिणामप्रकारविचारः) । Morphology deals with word-building by the union of the several constituent parts of the word, such as the root, stem, suffixes, affixes, case and personal endings, etc. Morphology is divided into four subdivisions: Nominal Morphology, Pronominal Morphology, Numeral Morphology, and Verbal Morphology. Modifications involved in what is called declensions of nouns and conjugations of verbs also fall under this branch.

Keywords

Nominal Morphology, Pronominal Morphology, Numeral Morphology, Verbal Morphology, Stem, Suffixes, derivation, inflexion, composition, compound Suffixes, superlative suffix, comparative suffix, prepositional formations

Discussion

Morphology

Morphology is that branch of Linguistic Science which deals with the building of words or forms- i.e. it deals with the derivation, inflexion and composition of words. It is divided into four subdivisions:-

- Morphology deals with the derivation, inflexion and composition of words

(1) Nominal Morphology.

(2) Pronominal Morphology.

(3) Numeral Morphology.

(4) Verbal Morphology.

Formation of Words

Stem and Suffixes (प्रकृतिः & प्रत्ययाः)

- In a Sanskrit word, there are two parts namely, the stem (प्रकृति) and the suffix (प्रत्ययाः).

In a Sanskrit word, there are two parts, namely, the stem (प्रकृति) and the suffix (प्रत्यय). In the noun forms *ramah (s)*, *rămau*, *rāmaḥ* (*as*), the first part răma, which is common to all three forms, is the 'stem', while s, au and as, which form the second part of the three forms respectively, are the suffixes. In the same manner, in the verbal forms *bhavati, bhavatah*(*s*), *and bhavanti, the first part, bhava, is the stem that is common to all three forms, and ti, tah (s), and anti* are the suffixes. Thus, the nouns रामः, रामौ, रामाः and the verbs भवति, भवतः, भवन्ति which are formed by adding the word-forming suffixes (सुप् and तिङ्) to the stems (प्रकृति), are called the inflexions of राम and भव, respectively.

The stems भूत, भूति, कृत, कृति, etc. two parts in the stem itself as- भू+त, भू+ ति,: कृ+त, कृ+ ति etc. Here, the first part भू is common to both भूत and भूति, and कृ to कृत and कृति, while the second part varies. The first part in such cases is called the root (धातु), and the second part is called the derivative element or stem-forming suffix (कृत्प्रत्ययः). The forms (stems) भूत, भूति, कृत, कृति, etc., are called the derivations of the roots and कृ.

- Two kinds of suffixes- Stem forming suffixes and Word forming suffixes

Classification of Suffixes

There are two kinds of suffixes: (1) Stem-forming suffixes and (2) Word-forming suffixes. These are also known as Formative suffixes and Inflexional suffixes. The stem-forming suffixes are divided into two kinds: (1) Primary suffixes (कृत्प्रत्ययः) and (2) Secondary suffixes

(तद्धितप्रत्यया:). Word-forming suffixes, too, are divided into two types: (1) Case-endings (सुप:) and (2) Personal or verb endings (तिङ्:).

According to the above divisions of suffixes, primary suffixes are employed in deriving forms from roots and secondary suffixes are used in deriving forms from noun-stems. Thus, the tr in datr is a primary suffix, and the *i* in *mrgi* is a secondary suffix. For example, the suffix *"ka" in "suşka" is a primary suffix, but in "balaka"* it is a secondary suffix.

- Panini's classification of suffixes into कृत् and तद्धित is not quite appropriate

Philologists argue that Panini's classification of suffixes into कृत् and तद्धित is not entirely accurate. According to him, the suffixes are stem-forming suffixes to be added to the roots, and the तद्धित suffixes are meant as word-forming suffixes (तस्मै प्रयोगाय हि ताः तद्धिताः) to be added to the stem after the कृत् suffix. But many तद्धित suffixes are mere stem-forming suffixes like कृत्प्रत्ययः, and the real word-forming suffixes are the case-endings and personal endings. Moreover Panini treats the क्तवतु प्रत्यय as a कृत् suffix but realy it is a combination of the कृत् suffix क्त and तद्धित suffix वतुप्।

- Panini's Sūtra सुप्तङिन्तं पद defines word as a stem to which a case-ending or verbal-ending suffix is attached at the end

The word-forming suffixes (सुप् and तिङ्) -the case endings and the personal or verbal endings are employed to build noun forms and verbal forms, respectively, over the noun and verbal stems. Panini's Sūtra "सुप्तङिन्तं पदं" defines a word as a stem to which a case-ending or verbal-ending suffix is attached at the end. For example, राम: and भवति are words (पद) because to the nominal stem rama the case-ending suffix s is added, and to the root stem *bhava* the verbal-ending suffix *ti* is added.

Simple and compound Suffixes

- Split up into distinct elements and such suffixes are called compound suffixes

Many formative (stem-forming or primary) suffixes can be split up into distinct elements, and such suffixes are called compound suffixes, while the rest are called simple suffixes. For example, the superlative suffix *isto* > Skt. *istha* can be split into *is* and *to*. Here, *istha* is the weakened form of *ios* Skt. *yas* in *variyas* and *to* > Skt. *ta* is the last part *derketo* > Skt. *darsats* .This *to*> Skt. *ta* is added to the weakened form *is* and *thus* the superlative suflix *is* + *to* > Skt. *istha* is formed.

Brugmann gives three reasons for the formation of compound or complex suffixes.

1. The transfer of a word from one declension to another. For example, in the Sanskrit word danta, antu is a compound suffix. The word danta is derived from the root ad to eat by adding the suffix

antod + ont > Skt. ad + ant = adant. Over time, the initial 'a' of the stem 'adant' was dropped due to accentual change, and it was added at the end, thus converting the t-stem (हलन्त) into a stem-danta (अजन्त). Thus, *ant+a =anta* is a compound suffix. However, the original stem in compounds like *dvidant, suduti* etc. The change of हलन्त into अजन्त has been approved by the grammarian भागुरि in places like *vāc+ā= vācā, dis + a = disa* etc "वष्टि भागुरिरल्लोपमवाप्यो- स्पसर्गयोः । आवां चैव हलन्तानां यथा वाचा, निशा, दिशा ।।

- The transter of a word from one declension to another

2. The second reason for the formation of complex suffixes is the difficulty in knowing the meeting point of the stem and the suffix in a word.

E.g. *taksan + i = takṣani*

rajan + i=rajn - i = rājñi

- The second reason for the formation of complex suffixes is the difficulty the stem and the suffix in a word

Here, *i* is the suffix denoting feminine gender. Still, its fusion with the stem *taksan* and *rajan* is so complete that *ni* was considered as the suffix and that was later on added to stems like *indra, pati*, etc. to form the feminine forms as indra + ni= îndrăṇi; pati + ni = patnī, ācārya + ni = ācāryāṇi, etc. Thus *ni*, which consists of a part of the stem n and the suffix a, is a compound suffix.

3. The third reason for the existence of compound suffixes is the combining of two derivative elements, e.g.- *jyesthatama, puruṣatvată*, etc. In jyesthatama, two superlative suffixes-*istha* and *tama* are combined and in *puruṣatvată,* the suffixes *tva* and *tå* of the same meaning are combined. Further, *istha* and *tama* are themselves compound suffixes.

- The third reason for the existence of compound suffixes is the combining of two derivative elements

In the I.E. Language there was the word *medhios>Skt. madhyas,* which conveyed the comparative sense. Later on, a part of that word, ios was separated, considering it as a comparative suffix, and it was used for making comparative adjectives like Skt. navyas (newer); bhuyas (more); rabhyas (more violent); Avesta- spanyah (more holy), Latin senior, etc.. Afterwards, by adding 'I' before 'ios', we get Skt. *yas,* the comparative suffix *iyas* was formed and added to stems like *vara, mahan*, etc. to form words like variyan, mahiyan, gariyan, kaniyan, etc.

The origin of the other comparative suffix *tara* can be traced to the parent language itself and became *n-dhero* > Skt. *adhara.* The *dh* changed into *t* in the LE parent language itself and became *tero* in *en-tero* > Skt. *antars* . This word *antara*, which is derived from the word *enter* > Skt. *antar* (inside), Latin *inter* showed the way for the formation of a class of adjectives with *tara* added to the prepo-

sitions such as Skt.-*uttara, avatara, nistara*: Gk. *proteros* etc. The prepositional formations have a comparative significance which is derived from the nature of the prepositions to which *tara* is attached. However, later on, a special comparative meaning was attached to the suffix "tara," and it was added as a secondary suffix to adjectives, as in Sanskrit. *cărutara, gurutara*, Gk, *kauphoteros* (lighter), etc.

To *n-dhero* > Skt. *adhara.* The *dh* changed into *t* in the LE

The superlative suffix *isto* > Skt. *istha* is formed by adding *to* > Skt. *ta* from *derke-to* > Skt. *darsata* to the weak form is of the comparative suffix *ios* > Skt. *yas*. e.g, *ios* > *is+to*> Skt. *iştha*; *naidisto* > Skt. *nedistha,* Avesta--*nazdista* etc.

Further examples:-

Skt.- *svådistha,* Gk,- *hedistos*, Goth.- *sutists.*

Skt.- *ojistha*, Av.- *aojista* etc.

The other superlative suffix *tama* is also a compound suffix. It is possible that this suffix was formed by combining the *to*> Skt. *ta* from *dekm-to* > Skt. *daśata* with the *mo* > Skt, *ma* from *upirmo* > Skt. *upama.* It is also possible that the suffix *tams* was formed from *n-dhemo* > Skt, *adhama,* by the change of *dh* into *t*. In this case, it is not a compound suffix. There is a third way by which the suffix *tama* would have been formed. The gradation suffix *ma* is found in Skt. *saptama, daśama, madhyama,* etc. From such as *vimšatitama, Satatama,* etc. This *tama* was later identified as the superlative suffix tama, which presumably arose from Sanskrit antama and Latin *intimas*. The forms Ugratama, ratnadhātama, etc. were formed by adding the tama suffix to the stems ugra, ratnadha, etc. The I.E. form for Skt, *saptama* is *septm* + *mo* from which *tm*+ *mo* form the compound suffix *tama*.

- Gender-Natural and grammatical

Summarised Overview

Morphology is the study of word building through derivation, inflexion, and composition. Nominal, Pronominal, Numeral, and Verbal Morphology are the subdivisions of Morphology. The stem has two parts in the stem itself. Here, the first part भू is common to both भूत and भूति, and कृ to कृत and कृति, while the second part varies. The first part in such cases is called the root (धातु), and the second part is called the derivative element or stem-forming suffix (कृत्प्रत्ययः). There are two kinds of suffixes: (1) Stem-forming suffixes and (2) Word-forming suffixes. These are also known as Formative suffixes and Inflexional suffixes. The stem-forming suffixes are divided into two kinds: (1) Primary suffixes (कृत्प्रत्ययः) and (2) Secondary suffixes (तद्धितप्रत्यया:). Word-forming suffixes, too, are divided into two types: (1) Case-endings (सुप:) and (2) Personal or verb endings (तिङ्:). Primary (added to roots), Secondary (added to noun stems), and Compound (formed from multiple elements). Stem + Suffix = Word (e.g., rama + s = ramas). Formed through the transfer of words, the fusion of stem and suffix, or the combination of derivative elements. Brugmann gives three reasons for the formation of compound or complex suffixes.

Assignment

1. What are the main focuses of morphology?
2. How many subdivisions does morphology have?
3. What are the classifications of Suffixes? Explaine
4. What is the difference between primary and secondary suffixes?
5. What is a compound Suffix? Can you give an example of a compound suffix?
6. What are the reasons for the formation of compound or complex suffixes?

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SGOU

Unit : 2 Compounds - Classification - Characteristics - Paninian Scheme of Compound Classification

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- identify the basic concepts of linguistics.
- describe the Evolution of Sanskrit Language Studies (Indian traditions).
- comprehending aspects of Sanskrit grammar from a linguistic perspective
- describe the Classification of Compounds and the characteristics of Compounds

Background

Compounds can be classified under two heads: (1) Morphological classification and (2) Semantic classification. The Morphological classification is based on the structure of the compound, while the Semantic classification is based on the meaning of the compound. Semantic unity (एकार्थीभावसामर्थ्यम्), flexional unity (एकविभक्तिकत्वं) and unity of accent (एकस्वरविशिष्टत्वम्) are three characteristics of compound words. Panini's system of compound classification is a fundamental part of Sanskrit grammar. He categorized compounds into six types: अव्ययीभाव (Avyayi Bhava), तत्पुरुष (Tatpurusha), बहुव्रीहि (Bahuvrihi), द्वन्द्व(Dvandva), कर्मधारय(Karmadharaya), and द्विगु(Dvigu). This classification is based on the structure and meaning of the compounds, providing a comprehensive framework for understanding Sanskrit compounds.

Keywords

Semantic unity (एकार्थीभावसामर्थ्यम), flexional unity (एकविभक्तिकत्वं) and unity of accent (एकस्वरविशिष्टत्वम्)), compounds, अव्ययीभाव (Avyayi Bhava), तत्पुरुष (Tatpurusha), बहुव्रीहि (Bahuvrihi), द्वन्द्व (Dvandva), कर्मधारय (Karmadharaya), and द्विगु (Dvigu), Co-ordinating Compounds (उभयपदार्थप्रधानाः) Subordinating Compounds (उत्तरपदार्थप्रधानाः) Non-Epithetised Compounds (पूर्वपदार्थप्रधानाः) Epithetised Compounds. (अन्यपदार्थप्रधानाः)

Discussion

Compounds

Sanskrit can combine two or more words into a single unit, treated as a single word with regard to accent, inflexion, construction, and meaning. This feature comes from the I.E. period. Sanskrit's system of compound words is no parallel in any other language. This development, however, is only characteristic of the classical Sanskrit. In Vedic Sanskrit, the use of compounds is much more restricted, both in frequency and in the length of compounds. In the Rig Veda, no compound with more than three words is met with, and even those with three members are very rare.

Definition and Characteristics

According to Brugman, a compound is defined as "When a group of words is connected in some syntactical relation into a single form, it is called a compound". Semantic unity (एकार्थीभावसामर्थ्यम्), flexional unity (एकविभक्तिकत्वं) and unity of accent (एकस्वरविशिष्टत्वम्) are three characteristics of compound words.

- Characteristics of compound- Semantic unity, flexional unity and unity of accent

Semantic Unity (एकार्थीभावसामर्थ्यम्):- A compound comes into existence when two or more words form a single expression- a process which is usually associated with the development of a specialised meaning. This unity of expression is called एकार्थीभाव in Sanskrit,

Flexional unity (एकविभक्तिकत्वं):- Only the last member of a compound word is inflected, and other members appear in their stem form without the flectional ending-e.g. राजपुरुषः, हस्तपादौ, नीलोत्पलम्, etc.

Unity of Accent (एकस्वरविशिष्टत्वम्):-Only one syllable of a compound word bears the principal accent (उदात्त) and its position is decided by the particular class of compound.e.g. अन्तोदात्तस्तत्पुरुषः, आद्योदात्तो बहुव्रीहिःetc.

- Semantic unity is the most important. Flexional unity and unity of accent are not invariable. For these examples are

Of the above three characteristics, semantic unity is the most important. It is एकार्थीभाव, i.e. denotation of a single concept that distinguishes समास from सन्धि। The other two characteristics are not invariable, since sometimes we meet with exceptions. For example, in the अलुक्समास - कण्ठेकालः, वनेचरः etc., the first member retains the case suffix. Again, in Vedic compounds like mitra varunā, indramárutau, etc., both members have the principal accent. Although the first example is not a full compound, the second is. Thmesis also sometimes occurs, mostly in Dvandva compound-*indra no atra*

varunā, dyāvā ha kşamā etc.

Classification of Compounds

Compounds can be classified under two heads: (1) Morphological classification and (2) Semantic classification. The Morphological classification is based on the structure of the compound, while the Semantic classification is based on the meaning of the compound.

1. Morphological Classification

Brugmann distinguishes four classes of compound forms in Morphological classification.

(1) Compounds where the first part is the stem of an inflected noun or pronoun. These are called genuine compounds. Example:-

Skt. - dvipad*, tripād, răjapuruşah,*

aśvayuj, yuktāśva etc.

Gk - *di-pous, oku-pous* (swift-footed)

hippo-damos (taming horses), etc.

(2) Compounds where the first part is a word which never admits of inflexion in any period of the history of I.E. languages and which appears only in compounds. e.g

Skt. - *amrias* Gk. – *ambrotos* Eng. *ambrosia*

" *anaśvas* " *anippos*

" *asvapna* Lat.- *insomnis*

" *durmanas* " *dusmenes*

(3) Compounds where the first part is an old adverbial word with or without a case-ending, which was also used independently without being compounded.

Skt. -	apihitas	Gk. -	*epithitos*
"	uparimartyas	"	*uper anthropos*
"	pratyakşam	"	*peri kephatom*
"	atimatram		

(4) Compounds where the first part is either a case form or an adverb which had become as such only during the development of separate languages (अलुक्समासः)

Examples- Skt *dvādaśa, trayodasa, yudhisthirah kanjhekalah, pitamahah, dasyah, putrah* etc. In *dvadasa,* the *a* in *dva* is the dual

suffix retained. In Greek, *dios-dotos, des- potes* etc. are the examples of such compounds. These are called spurious compounds since they are not real compounds but are only juxtapositions

In *brahmanaspatih*, the *s* is the case-suffix, but on the analogy of this, *s* is added to *vana* in *vanaspatih*. In अन्योन्यम् and परस्परम् the nominative singular suffix *s* is applied to the first member in all cases and genders- अन्या-अन्यम्, परा-परम्, अन्यस्य अन्यं प्रति, परस्य परं प्रति etc.

11. Semantic Classification

Brugmann divides Semantic compounds into four groups:-

(1) Co-ordinating Compounds (उभयपदार्थप्रधानाः)

(2) Subordinating Compounds (उत्तरपदार्थप्रधानाः)

(3) Non-Epithetised Compounds (पूर्वपदार्थप्रधानाः)

(4) Epithetised Compounds. (अन्यपदार्थप्रधानाः)

(1) Co-ordinating Compounds. (द्वन्द्वः)

In coordinating compounds, two members stand side by side on the same level. These may be regarded as joined together with the conjunction '*and*' (चार्थे द्वन्द्वः) and thus are called copulative compounds. In Primitive Indo-European, coordinating compounds were rare; the only type known was one that had a case form in the initial member, e.g., *duo-dekm* > Skt. *dvādaśa*. Here the o >Skt. *a* is the dual suffix. In the Vedic, there are many examples of *Dvandva*, but the major part of them are confined to *Devatadvandva* or pairs of Gods such as *indravaruná, dyäväp*ṛ*thivi*, etc., where the initial members appear with case endings. In the post-Vedic period, in classical Sanskrit, any number of words were strung together into a single word, as मुखबाहूरुपादतः, etc. Juxtaposition, i.e.. using two nouns side by side on the same level and the use of Elliptical dual (एकशेष) where one word used in dual as पितरौ means both father and mother, are the causes for the development of Co-ordinate compounds. The word माता was also used with it as मातापितरौ, and thus द्वन्द्वसमास developed.

Wakernagal defines seven stages in the development of द्वन्द्वः compound. These are represented in the following examples.

1. *mitra-varunā (varunau)*	Rgveda
2. *mitra-varunayoh (várunābhyām*)	"
3. *indra-pusnuh, soma-rudrayóh*	"
4. *indra-vayu*	"

5. *aho-ratroṇi; ajāvayah* "

6. *uktha-śasträni* Atharvaveda

7. *işţāpūrtám, päripadám, kṛtākṛtam* "

1. The first example given above, *mitra-váruṇā*, is not a genuine compound; there is the dual suffix a in both members of the compound, and both bear the principal accent.
2. In the second examples *mitra-varunayoh* and *mitra-varunabhyam,* the second members take the genitive and instrumental cases respectively while the initial members remain in the nominative dual. The use of cases other than प्रथमा in the द्वन्द्वः compound marks the second stage of its development.
3. In the third stage*, Indra-pusnuh,* there is accentual unity, the first member having lost accent. This is the only development here over the second stage.
4. *Indraya- vayu is the fourth stage, in which the case-ending of the first member is dropped, and the stem alone remains*. This becomes almost a full द्वन्द्वः compound with accentual unity and the loss of the case ending of the first member
5. *aho-ratroṇi* the compound word takes the plural number.
6. *uktha-śasträni* in this compound word, Macdosell finds no development from the previous one, while Wakernegal finds some improvement and treats this as the sixth stage.
7. *işţāpūrtám etc.*. Here, the compound word takes the collective singular and the highest stage of development of the द्वन्द्वः compound. The compound word has a collective sense and it is always used in the neuter gender and singular number. According to some philologists, it is the Elliptical dual (एकशेष) that represents the highest stage of development of a compound.

For example:-

Ved. Mitrá = mitra and varuna

" Pitara

Skt. pitarau = father and mother.

Ved. Dyává = heaven and sarth

The compound *agni* + *visnu* should be *agnivisnu*, but the Vedic *agnavisnu* is by analogy of *mitravarunau*

In the co-ordinating compound, both the members are of equal status (उभयपदार्थप्रधानो द्वन्द्वः) and hence this compound is more important

than others, and hence the Lord says in "अक्षराणामकारोऽस्मि द्वन्द्वः सामासिकस्य च"

II. Subordinating Compounds (तत्पुरुष:)

In this compound, one member contains the principal idea and the other is merely an adjunct subordinated to it. It defines the principal member, which is the second one, and hence this is उत्तरपदार्थप्रधानः तत्पुरुषः। Brugmann divides subordinate compounds into six groups as follows:-

(1) Compounds where both members are nouns, and the first member is in a relation of apposition to the second member. eg-

Skt. - *rajarsih, puruşamıgah, vrsākapih* etc.

Gk. - *iatro-mantis* (seer physician) Eng- gold-*ring*.

(2) Compounds where the first member is an adjective, e.g Skt. *nilorpalam, ardhahanus, ekavirah, candramas* (bright moon). etc.

Lat.- *pleni-luninum* (full-moon पूर्णमासी)

Gk. - *acro- polis* (upper city).

(3) Compounds where both members are attributes-e.g. *tamra-dhümrah, sitosnam*

The above three types are called कर्मधारय by Indian Gram marians-" तत्पुरुषः समानाधिकरणः कर्मधारयः"।

(4) Compounds whose first member is a numeral. This is called द्विगु by Indian grammarians "संख्यापूर्वी द्विगुः", e.g.

Skt.- *saptarşayah, triratram*

Gk.- *tripous* Lat.- *tipes.*

(5) Compounds whose first member is a noun standing in such a relationship to the second member as would normally be expressed by a case termination, eg.

Skt.- *rajapuruşak, mātrsvasă, gramavasah, martyabandhub,* etc.

Gk.- *metropator* (mother's father), *oiko-despotes* (master of a house). etc.

(6) Compounds with verbal adjective form as the second member-e.g. Skt.- *vedavit, somasut* (उपपदमतिङ् इति सूत्रविहिताः) Lat.- *judex.*

III. Epitherized Compounds

According to Brugmann, the epithetised or बहुव्रीहि compound has arisen from कर्मधारय or a non-epithetised compound. For example, the word दुर्मनस्, meaning 'evil mind', was later epithetized in the sense of one possessing an evil mind. Similarly, पीताम्बर meaning *'yellow robe'* was later on used in the sense of one wearing a yellow robe- पीतं अम्बरं यस्य सः। These two compounds differ only in the meaning and not in the form. The change in the meaning is understood by the change in the position of the principal accent. In बहुव्रीहि, the accent is on the first member (आद्युदात्त) while in कर्मधारय it is on the last syllable of the second member. Thus *rajaputrah* would mean one having kings as sons राजानो पुताः यस्य सः; and *rajaputrah* would mean the king's son रामः पुत्रः । Examples of epithetised compounds *dusmenes* > Skt. *durmanah*, Gk. *dusmenes*, Eng. *evil-minded*. Skt. *indrasatruh*. Gk. *leuko-lenos* (white-armed) etc.

The compound word बहुधनी meaning 'one who has plenty of wealth is formed by adding the possessive suffix (मत्वर्थीय) in spite of the rule" न कर्मधारयात्मत्वर्थीयः"। In "देवास्त्वा इन्द्रज्येष्ठाः", the epithetised compound word इन्द्रज्येष्ठ has not originated from कर्मधारय but from appositional use of nouns.

IV. Non-Epithetised Compounds

The अव्ययीभाव compounds where the first member dominates (पूर्वपदार्थप्रधान) such as अनुगङ्गम् यथोपदिष्टम् etc. come under this classification. कर्मधारय like नीलोत्पलं, पीताम्बरं etc. Formed under the Sutra "विशेषणं विशेष्येण बहुलम्" also come under this title.

Paninian Scheme of Compound Classification

Panini classified compounds into six categories:

अव्ययीभाव (Avyayi Bhava)

तत्पुरुष (Tatpurusha)

बहुव्रीहि (Bahuvrihi)

द्वन्द्व (Dvandva)

कर्मधारय (Karmadharaya)

द्विगु (Dvigu)

This scheme is a fundamental part of Sanskrit grammar.

1. अव्ययीभाव (Avyayi Bhava)- Compounds where the first part is

an indeclinable (avyaya) and the whole compound functions as an adverb. For example, यथाशक्ति(yathashakti) - "according to one's ability". This type of compound is called अव्ययीभाव (Avyayi Bhava).

2. तत्पुरुष (Tatpurusha)- Compounds where the second part is the main word, and the first part is a modifier (often in a case relationship). Eg. राजपुत्र (rajaputra) - "king's son" or "prince". This type of compound is called तत्पुरुष (Tatpurushaip).
3. बहुव्रीहि (Bahuvrihi)- Compounds where the whole compound is an adjective, describing a noun not explicitly mentioned. E.g., चक्रपाणि (chakrapani) - "one who has a discus in his hand" (referring to Vishnu). This type of compound is called बहुव्रीहि (Bahuvrihi)
4. द्वन्द्व (Dvandva)- Compounds where two or more words are combined to indicate a collection or pair. Eg.रामलक्ष्मणौ (Ramalakshmanau) - "Rama and Lakshmana". This type of compound is called द्वन्द्व (Dvandva).
5. कर्मधारय (Karmadharaya)- Compounds where the first part is an adjective or a noun in apposition to the second part. Eg. महापुरुष (mahapurusha) - "great person". This type of compound is called कर्मधारय (Karmadharaya)
6. द्विगु (Dvigu)- Compounds where the first part is a numeral. Eg. त्रिलोक (triloka) - "three worlds". This type of compound is called द्विगु (Dvigu).

These are six types of Paninian compound classification.

Summarised Overview

Brugman says that "When a group of words is connected in some syntactical relation into a single form, it is called a compound". Semantic unity (एकार्थीभावसामर्थ्यम्), flexional unity (एकविभक्तिकत्वं) and unity of accent (एकस्वरविशिष्टत्वम्) are three characteristics of compound words. Of the above three characteristics, semantic unity is the most important. It is एकार्थीभाव, i.e. denotation of a single concept that distinguishes समास from सन्धि । Compounds can be classified under two heads: (1) Morphological classification and (2) Semantic classification. The Morphological classification is based on the structure of the compound, while the Semantic classification is based on the meaning of the compound. Brugmann distinguishes four classes of compound forms in Morphological classification. Brugmann divides Semantic compounds into four groups: - Co-ordinatingCompounds (उभयपदार्थप्रधानाः), Subordinating Compounds (उत्तरपदार्थप्रधानाः), Non-Epithetised Compounds

(पूर्वपदार्थप्रधानाः), Epithetised Compounds. (अन्यपदार्थप्रधानाः). In co-ordinating compounds, two members stand side by side on the same level. Wakernagal defines seven stages in the development of द्वन्द compound. According to some philologists, it is the Elliptical dual (एकशेष) that represents the highest stage of development of a compound. In this compound, one member contains the principal idea and the other is merely an adjunct subordinated to it. It defines the principal member, which is the second one, and hence this is उत्तरपदार्थप्रधानः तत्पुरुषः। Brugmann divides subordinate compounds into six groups. According to Brugmann, the epithetised or बहुव्रीहि compound has arisen from कर्मधारय or a non-epithetised compound. The अव्ययीभाव compounds where the first member dominates (पूर्वपदार्थप्रधान) such as अनुगङ्गम् यथोपदिष्टम् etc. The six types of Paninian compounds come under this classification.

अव्ययीभाव (Avyayi Bhava)- Compounds where the first part is an indeclinable (*avyaya*) and the whole compound functions as an adverb.. Example: यथाशक्ति (*yathashakti*) - "according to one's ability".The first part is an indeclinable word, and the compound acts as an adverb. तत्पुरुष (*Tatpurusha)*-Compounds where the second part is the main word, and the first part is a modifier (often in a case relationship).Example: राजपुत्र (*rajaputra*) - "king's son" or "prince".The second part is the main word, and the first part modifies it. बहुव्रीहि (*Bahuvrihi)*- Compounds where the whole compound is an adjective, describing a noun not explicitly mentioned. चक्रपाणि (*chakrapani*) - "one who has a discus in his hand" (referring to Vishnu).The compound acts as an adjective, describing a noun not present in the compound. द्वन्द्व (*Dvandva*). Compounds where two or more words are combined to indicate a collection or pair. रामलक्ष्मणौ (*Ramalakshmanau)* - "Rama and Lakshmana".The compound indicates a collection or pair of words .

Assignment

1. What is a compound word in Sanskrit?
2. What are the three characteristics of compound words?
3. What is semantic unity (एकार्थीभावसामर्थ्यम्)?
4. Give an example of a flexional unity (एकविभक्तिकत्वम्)?
5. How many types of compounds are there in Morphological classification?
6. What is the key feature of Co-ordinating Compounds (द्वन्द)?
7. Give an example of a Subordinating Compound (तत्पुरुष)?
8. What is an Epithetised Compound (बहुव्रीहि)?
9. How does a अव्ययीभाव compound function?
10. Can you give an example of a Non-Epithetised Compound?

11. What are the six types of compounds in Paninian classification?
12. What is the key characteristic of अव्ययीभाव (***Avyayi Bhava***) compounds?
13. Give an example of a तत्पुरुष (***Tatpurusha***) compound?
14. How does a बहुव्रीहि ***(Bahuvrihi)*** compound function in a sentence?
15. What is the main feature of a द्वन्द्व (***Dvandva***) compound?
16. Provide an example of a कर्मधारय (***Karmadharaya***) compound?
17. What is the role of the first part in a द्विगु (***Dvigu***) compound?
18. How many words can be combined in a द्वन्द्व (***Dvandva***) compound?
19. What is the difference between a तत्पुरुष (***Tatpurusha***) and a कर्मधारय (***Karmadharaya***) compound?
20. Give an example of a अव्ययीभाव (***Avyayi Bhava***) compound in a sentence?

Reference

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Suggested Reading

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2. Computational Linguistics: An Introduction, Ralph Grishman, Cambridge University Press, 1999.
3. Comparative Philology, T.K.Ramachandra Aiyar,R.S. Vdhyar& Sons.Book Sellers & Publishers, Kalpathy, Palakkad, 1987.
4. A Course in General Linguistics, Ferdinand de Saussure, (trans.) Warde Baskin, London, 1964.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

Unit : 3

Declension, Syncretism, Declensional Contamination, Case forms

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- examine the basic concepts of linguistics.
- describe the Evolution of Sanskrit Language Studies (Indian traditions).
- comprehending aspects of Sanskrit grammar from a linguistic perspective
- examine the Case forms, Declension, Syncretism, and Declensional Contamination.

Background

Basic understanding of the grammar of the Sanskrit language, specifically the declension of nouns and pronouns. This unit explains Declensional Contamination and the Metaplastic system of Declension, including pronominal declension and Nominal Declension, in Sanskrit. It explains how nouns can take on forms from different classes, and how pronouns have multiple stems and particles. The text also describes the seven cases in Sanskrit (Nominative, Accusative, Instrumental, Dative, Ablative, Genitive, and Locative) and their corresponding suffixes.

Keywords

Declensional Contamination , Metaplastic, Declension, Pronominal Declension, Nominal Declension, Dual suffix (प्रथमाद्विवचनं), Singular Number (एकवचनम्) Nominative Case. (प्रथमाविभक्तिः),_Vocative Case (संबुद्धि), Accusative case (द्वितीयाविभक्तिः), Instrumental case (तृतीयाविभक्तिः), Dative case (चतुर्थीविभक्तिः), Ablative case. (पञ्चमीविभक्तिः), Genitive case. (षष्ठीविभक्तिः), Locative case (सप्तमीविभक्तिः)

Discussion

Declensional Contamination and Metaplastic System of Declension

- Declensional contamination is a a noun takes on the forms of a different declension class in specific cases

When a noun takes on the forms of a different class in some instances, it deviates from its normal declension. This type of case change is known as declensional contamination. Some nouns may adopt forms from another declension class in specific cases. For example, the word पति gives up its normal form of इकारान्त पतिना, पतये, पतेः : etc. and takes up the forms of ऋकारान्त as पत्या, पत्ये and पत्युः in तृतीया, चतुर्थी, पञ्चमी and षष्ठी।

When nouns retain their own case-forms but also adopt forms from another class of nouns, this system allows nouns to have multiple forms from different declension classes. This phenomenon is known as the metaplastic system of declension. For example, the noun मति इकारान्त without giving up its normal forms in चतुर्थी, पञ्चमी, षष्ठी, and सप्तम्येकवचनं, takes up the forms of इकारान्त also as मतये-मत्यै, मतेः - मत्याः, मतेः -मत्याः and मतौ-मत्याम् । The word मधवन् takes the forms of both नकारान्त and तकारात् in all cases resulting in two declensions. This is due to the similarity between 'vant' and 'van'. Analogy plays a significant part in declension. The mixing up of *vant, van* and *vas* endings is very common. भगवच्छब्द has two forms in सम्बुद्धिः and हे भगवन् of तकारान्त and हे भगवः of the सकारान्त in Veda.

Pronominal Declension

There are two kinds of pronouns- Pronouns with gender and without gender- सर्व, विश्व, सम, त्यद, तद् एतद् इदं अदस् etc., belong to the former, while युष्मद् and अस्मद् belong to the latter.

- Two kinds of pronouns- Pronouns with gender and without gender

Pronominal declension differs greatly from nominal declension. Each pronoun has more than one stem as its source in the I.E.parent language. Many particles also form part of the pronominal declension. There are also instances of pronominal case suffixes added to the nominal stems and nominal suffixes to pronominal stems.

तच्छब्दः- The pronoun *tad* had three stems in the parent language. *sos, so* and *to*. In the nominative singular of the masculine gender, the P.I.E. form was *sos.* In the feminine gender and also in places like *sa esah, sa evam, sa gatva*, etc, so is the stem, and in all other places, the stem is *to*.

प्रथमैकवचनम् - *sos*> Skt. *sah*. No suffix,

प्रथमद्विवचनम् - *to+au* > " *tau.*

प्रथमबहुवचनम् - to+i > " *ta+i= te.*

Here the *i* s the first part of इदं शब्द - *i- da- m.* The प्र - ब-of पूर्वशब्द has two forms- *pürve* and पूर्वाः। The second is by analogy of the nominal forms like *rämah*.

तम्, तौ, तान् -as in nominal declenson. तेन- *ta + i + na = tena*. Here, the " idam " is from idam, and the " *na* is got from the adverb *na.* Afterwards*, ina was considered as the case suffix and that was taken to the nominal stems in ramena, vanena,* etc.

ताभ्याम्, तौ - as in nominal declension.

In *taya, aya* is the suffix brought from nominal declension like *aśvaya, ramaya* etc. From this *aya*, the *ya* alone was separted and used as suffix in *amuya*.

In तस्मै, तस्मात् and तस्मिन्, there is the additional particle sma, which might have come from the Avestic word *hma.* This was first used in सप्तमी, where it fits well as *ta + sm+i* particle *n == tasmin*. Then its use was extended to चतुर्थी and पञ्चमी । Before that, the पञ्चमी singular form was tat, which is now preserved in लोट्--bhavatât, kurutat, etc.

- Used in the dative, ablative and locative cases of the feminine pronominal stem

In the feminine forms तस्यै, तस्याः and तस्याम्, the additional *sya* is the genitive suffix *sio* >Skt. *sya,* which was later on used in the dative, ablative and locative cases of the feminine pronominal stems. In the feminine gender the suffix *as* was added to the *sya* in the genitive case-*ta-sya-as= tasyah*, and this as was later on added to ablative singular also as in the case of the feminine nouns where पञ्चमी and षष्ठी have the same forms.

In तेभ्यः, तेषाम्, and तेषु, the suffixes *bhyas, săm* and *su* are added to the plural form *te. te + bhyah, te+ sam* and *te +su*.

- In all cases and numbers except nominative singular

एतच्छब्दः - Originally, the nominative singular form of this pronoun was *eiso* Skt. *eşa* with no suffix *s* added to it. That form is now found in places like *eşa vişnuh*, *saişa dâšarathi rămah,* etc. This was the case with other similar pronouns also. The nominal suffix -*s* was added to pronominal stems in Proto-Indo-European (PIE), e.g., *eiso + s* = Skt. *esah*. Pronouns like *tyad, tad, yad* (neuter nominative singular) lack a suffix, suggesting originally no suffix was used. This development shows how pronominal forms evolved.

इदंशब्दः- For idam, *id* is the stem and *am,* the particle. Some scholars define three parts in it-*i+da+m*. In all cases and numbers except the nominative singular, *ima* is the stem. Here, the i is from the ei of

एतच्छब्द, and hence there is the other form enena apart from anena in तृतीयैकवचनम्। The m is from अस्मच्छब्द। Thus, the two- *i* and *m* together convey the meaning of ' a thing nearby'.

For अयं, the stem is *oi* and *am* is a particle *oi*+ am > Skt. *ayam.* In the opinion of some scholars, *o* is the stem to which when the particle *am* is added as *o* >Skt. *a* + *am*, the form should be *am*; but even before सवर्णदीर्घ takes place, *I* > Skt. *y* is put between the two vowels for easy pronunciation. This view seems to be too far-fetched.

For इयम, the stem is *i* and the particle *am*. For easy pronunciation, i is added between the vowels i *i* + *am* Skt. *iyam.*

अदः शब्दः- For forming the word *asau*, we have to join three parts- *a* + *sa* + *u* = *asau*. Here, the a is a part of ad, sa is from the प्रथमैकवचनं of तच्छब्द, and u is a particle; sa denotes the third person, and the other two parts denote long distance.

For किंशब्द there were many stems in the I.E. parent language assumed on the basis of the variations in different languages of the I.E family. For कः qo > Skt. *ka* is the stem. For किम् Skt. *ki* is the stem. Here*, qi should have become ci in Sanskrit according to the law of palatalisation*, but the guttural is retained by the analogy of *kah*. For *ka*, the form in the parent language is *qo,* and for कुत्र, the parent stem is *qu*. Indefinite pronouns are formed by adding the particle cit to किंशब्द like - कश्चित्, काचित्, किञ्चित्, कुत्रचित्, etc.

Declension of अस्मद् and युष्मद्

For both **अस्मद** and **युष्मद्**, there are too many different forms in the declension such as अहम्, वयम्, मां, मा, आवां, नौ; अस्मभ्यं, म्त्, अस्मत्; त्वम्, यूयम्, त्वां, त्वा, युष्मत् वाम्, त्वत् etc. The same forms are also found in different cases, such as **नौ** and **वाम्** in द्वितीया, चतुर्थी, and षष्ठी; मे and **ते** in चतुर्थी and षष्ठी, etc. So these declensions must have had many stems and particles in the I.E. parent language.

Cases

The third and most important characteristic of a noun is the case, which plays a very prominent part in all languages, particularly in the inflectional languages. Case is a crucial characteristic of nouns, indicating word relationships in sentences. Case is expressed through word position or case-forming suffixes. Suffixes were originally independent words that lost their independence and became attached to noun stems. For example, the Dual suffix (प्रथमाद्विवचनं) - au (e.g.,

hastău) originated from a word like ubhī, which was used after हस्त, thus-हस्त उभौ। In the course of time, the औ in उभौ was considered as the suffix denoting the dual number and was separated from उभौ and added to the stem हस्त. Some suffixes are shared across cases (e.g., *-bhyām, -os),* while some cases have multiple suffixes (e.g., *-ām and -au* for सप्तमी).

All seven cases of the parent language have survived in Sanskrit, and it is presumed that all the case-forming suffixes of Sanskrit (सुप्प्रत्यय) were present in the IE parent language. In the Greek language, there are only five cases, with तृतीया and सप्तमी being omitted. In Balto-Slavonic, there are six cases omitting पञ्चमी. In Germanic, there are only four cases- प्रथमा, द्वितीया, चतुर्थी and षष्ठी । Other cases are indicated by the use of prepositions. In Tokharian, there are eight cases in the singular and nine in the plural._

Nominal Declension

Singular Number (एकवचनम्) Nominative Case. (प्रथमाविभक्तिः)

For the nouns (stems) ending in *e, o, a* (Skt. *a)*, *i, i, u, û* and diphthongs, the nominative singular suffix (प्रथमैकवचनप्रत्यय) is *s*. eg *rama* + *s*= *ramah*. In the same way, we have harih, sudhih, sambhu vadhūh, rai + s= rah, nau + s = nauh, etc.

The suffix s is dropped from nouns ending in a ia (Skt. आबन्त and ङीप्, ङीप् ङीनन्त). e.g. *rama, gauri* etc.

From the stems ending in r, *n, r, s,* the suffix *s* is dropped, and the final vowel of the stem is lengthened. c.g.-

patr + *s* > *piter* + *s* > Skt. - *pitar* + *s* = *pită;*

rājan + *s* = *rājā; gir* + *s* = *gih;*

durmanas + *s* = *durmandh* etc.

With regard to nouns ending in explosives, the suffix *s* is dropped and the stem (प्रातिपदिक) alone is heard. e.g- *jalamuk, marut* etc.

For the neuter nouns ending in *a*, the nominative singular suffix is *m*. e.g. *grham, vanam* etc. This *m* is added on the analogy of the masculine accusative suffix *m* since both are things acted upon (passive-अस्वतन्त्र) and not actors (subject - स्वतन्त्र).

The Vocative Case (संबुद्धि)

Vocative is not really a case. It is a sort of interjection. It exists only in Sanskrit. In other languages, the vocative sense is conveyed

by the nominative itself. Even in Sanskrit, the vocative dual and plural are the same as those of the nominative. Only in the vocative singular is there a difference in form.

The vocative singular suffix is *s,* which is dropped except in the case of nouns ending in *a* and *i* that are not part of a suffix. In some places, the final vowel of the stem is modified before the s is dropped-Examples:-

(a) Where *s* is dropped, leaving the stem as it was:-

हे राम, हे गोपाल, हे गुणिन्, है राजन्, हे वेधः etc.

(b) Where *s* is not dropped-

हे विश्वपाः, हे लक्ष्मीः, हे सुधीः, etc.

(c) Where the final vowel is modified before the *s* is dropped;-

हे हरे, हे शम्भो, हे गौरि, हे वधु etc.

Accusative case (द्वितीयाविभक्तिः)

The accusative singular suffix for both vowel-ending and consonant-ending nouns (stems) is *m.* This becomes *m* in Sanskrit from stems ending in a vowel (अजन्त), and is changed into a les stems ending in a consonant (हलन्त). e.g-

ulqom > Skt. *vrkam* (अजन्त)

mudm > " *muda* (हलन्त)

The accusative is primarily a case of the object of a transitive verb, in a more expanded sense, the goal of the action denoted by the verb. e.g. कृष्णं सेवते, ग्रामं गच्छति, etc.

Instrumental case (तृतीयाविभक्तिः)।

In the instrumental singular, for nouns (stems) ending in vowels except *i* and *u*, and for those ending in consonants, the suffix *e* or *o* Skt. *a.* For those ending in *i* and *u*, the suffix is i and u, respectively. e.g. *ulqo* + *e* or *o* > Ved. *vrka*; Skt. *vrkena* is by analogy of sarvena.

For feminine nouns ending in & the normal instrumental singulat forms are *aśvā, bälä, ramă* etc., but the Sanskrit forms *aśvaya, balaya, ramaya* etc are by the analogy of *gaurya, nadya* where *ya* is legitimate- *gauri* + *a* = *gaurya, nadi* + *a* = *nadya.*

Dative case (चतुर्थीविभक्तिः)-

The tauto-syllabic *ai* is the Dative suffix for both अजन्त and हलन्त

nouns. In the case of stems ending in *a*, an additional suffix *e* is added after *ai.* This additional *e* is a preposition

For the feminine nouns ending in *i* and *u*, the dative suffix is the tauto-syllabic *ai*. e.g.-

pati + *ai* > Skt, *patye*

marut + *ai* > " *marute*

ulqo + *ai* + *e* > " *vrkaya*

gauri + *ai* > " *gauryai*

v*adhū* + *ai* > " vadhvai

pater + *ai* > *pitr* + *ai* > *pitre*

hari + *ai* > hare- *ai* > haraye

guru + *ai* >*guro- ai* >*gurave*

In the last two examples, the final vowel of the stem is modified when followed by the dative suffix *ai*. In *ramayai* the yai is by analogy of *gauryai*.

Ablative case. (पञ्चमीविभक्तिः)

For all nouns, the ablative singular suffix was ending in vowels and consonants, the es or os, for stems ending in a, the ablative suffix is *ed* or *od*. This has probably come from pronominal declension.

marut + es = Skt. *marutah*

mud + *es* = " *mudah*

ulqo + *ēd* = " *vrkād*

In *ramayah*, the *yä* is by analogy of *gauryah.*

Genitive case (षष्ठीविभक्तिः)

For nouns ending in consonants *es* or *os,* it is the genitive singular suffix. *es* in Latin and *os* in Greek, both of which become as in Sanskrit. For nouns ending in vowels, *s* is the genitive suffix. This *s* is the result of the omission of the *e* or *o* in view of the vowel ending of the stem.

mud + *es* > Skt. *mudah*

ulqo + *s* > Skt. *vykat-ya*.

Here the ya is by analogy of *sarvasya.* For the feminine nouns ending in vowels, the genitive suffix is *es* or *es.*

ekuo + *ds* > Ved. *asvah.* In *ramayah*

the ya is by analogy of gauryah.

gauri + *ös* > Skt. *gauryah*

Locative case (सप्तमीविभक्तिः)

For all nouns except those ending in *i* and *u,* the locative suff is *i* e.g. *ulqo+ i* > Skt. *vrke*; *mud* + *i* Skt. *mudi*

nau+i Skt. *navi*

For those ending in *i* and *u* the suffix is *e* or *eu agni+é* >Ved, *agna, agni* + *eu* > Skt. *agnau; sunu* +eu > Skt-*sunau*.

For those nouns ending in *a,i* and *u* the locative suffix is *am* if the final vowels are part of the suffixes of टाप् ए, ङीप् etc .. *rama* + *am* = *ramâm*, but the existing form is *ramam*

Summarised Overview

When a noun takes on the forms of a different class in certain cases, it deviates from its normal declension. This type of case change is known as declensional contamination. When nouns retain their own case-forms but also adopt forms from another class of nouns, this system allows nouns to have multiple forms from different declension classes. This fact is called the Metaplastic system of declension. Pronominal Declension is of two kinds of pronouns: Pronouns with gender and without gender. e.g. सर्व, विश्व, सम etc.. Pronominal declension differs from nominal declension, with pronouns having multiple stems and particles. Nominal Declension: Has seven cases, with different suffixes for each case. It explains how nouns can take on forms from different classes, and how pronouns have multiple stems and particles. The third and most important characteristic of a noun is the case, which plays a very prominent part in all languages, particularly in the inflectional languages. Case is a crucial characteristic of nouns, indicating word relationships in sentences. Case is expressed through word position or case-forming suffixes. It also describes the seven cases in Sanskrit (Nominative, Accusative, Instrumental, Dative, Ablative, Genitive, and Locative) and their corresponding suffixes.

Assignment

1. What is Declensional Contamination?
2. Give an example of a metaplastic system of Declension?
3. How does Pronominal Declension differ from Nominal Declension?
4. What are the characteristics of the pronoun “tad”?
5. Explain the formation of the word “asau”?

6. How many cases are there in Sanskrit?
7. What is the Vocative Case, and how is it used?
8. Give an example of the Accusative Case?
9. How is the Instrumental Case formed?
10. What is the difference between the Dative and Ablative Cases?

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Suggested Reading

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

Unit : 4

Semantic Changes, Specialisation, Generalisation, Transference, Pejoration, Melioration, causes of semantic Change

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- describe the Evolution of the Sanskrit language
- examine the basic concepts of linguistics.
- comprehending aspects of Sanskrit grammar from a linguistic perspective
- describe the classification of Semantic Changes and the causes of semantic Change

Background

The word philology means the science of the structure and development of language. Linguistics is the modern term for philology. The Science of Language, or Comparative Philology, is divided into four main branches. They are- 1. Phonology (शब्दोत्पत्तिविपरिणामप्रकारविचारः)। 2. Morphology (पदनिष्पत्तिप्रकारविचारः)। 3. Syntax (वाक्यरचनाप्रकारविचारः)। 4. Semantics (अर्थविपरिणामप्रकारविचारः) । Semantics, the branch of linguistics that studies meaning and changes in word meanings. It explains the classification of semantic changes into three main heads: Specialisation, Generalisation, and Transference. The text also discusses other divisions of semantic change, including pejoration, Association, Restriction, Expansion, Degradation, Elevation, and Variation. Additionally, it touches on the causes of semantic change, including figurative speech, euphemism, politeness, irony, vagueness of meaning, misunderstanding, contact with new people, and emotional emphasis.

Keywords

Semantic changes, Specialisation, Generalisation, and Transference, Pejoration, Association, Restriction, Expansion, Degradation, Elevation, and Variation, Borrowing words

Discussion

Semantics

Linguistic change was classified into two categories: phonetic change and Semantic change. It dealt with the first Semantic change

Semantics is a branch of linguistics that studies meaning and changes in word meanings. Although people have long noticed changes in word meanings, serious study began with French scholar Breal. Unlike phonetic changes, semantic changes are more complex to explain due to limited knowledge of ancient word meanings. Changes in meaning often depend on creative usage by writers and poets. Readers may interpret words differently, adding to the complexity. Semantic changes are more complex than phonetic changes. Understanding semantics helps us appreciate the evolution of language and its nuances.

- Readers may interpret words differently, adding to the complexity

It is evident that the human mind is the principal factor in the change of meaning, and hence it is not possible to predict the way in which the meaning of a word may change. However, it is possible to explain and categorise the changes into various types.

It is worth noting that the Sanskrit Grammarians and philosophers have played an important part from a very early period in the sphere of speculations on Semantics. The three great Indian systems of thought-Nyaya, Vyakaraṇa and Mimāṁsā have contributed much for the study of meaning. The various principles laid down by them, such as अभिधा, लक्षणा, तात्पर्य, etc., are scientific and largely acceptable to modern philologists. The fourfold division of रूढ as रूढ, यौगिक, योगारूढ, and यौगाकरूढ is based on proper philosophical thinking on language.

Classification of Semantic Changes

According to Tucker, all semantic changes can be broadly classified under three heads-

1. Specialisation: Narrowing or contraction of meaning

2. Generalisation -Widening or expansion of meaning

3. Transference: Shifting of meaning.

1. Specialisation- A word having a general and wide significance comes to be restricted to a certain special aspect, while another word is used for the original significance. Examples of this type are naturally numerous because a general word is more often used in a special sense than a special word in a general sense. e.g.

- Specialization is the first semantic changes

Words	Original general meaning	Specialised meaning
Skt. - mata	atmosphere	mother
Šakuna	flight of birds	omen
Pankaja	mud-born	lotus
Mrga	animal	deer
Vacaniya	speech-worthy	censurable
Vidhava	cheated or robbed Woman	widow
Eng.- voyage	journey	sea-journey
Meal	food or swee-meat	flesh-food
Ghost	life	spectre or spirit of the dead

It may be noted that the specialization of pankaja, mrga, vidhava, etc. are examples of निरूढ लक्षण ।

2. Generalization. Here a word having a special sense be comes to be used in a wider sense-e.g

Words	Original meaning	Wider meaning
Mantra	Vedic passage or hymn	a mistic formula or discussion of State policy
kulala	a grass cutter	clever, skilled
taila	oil of sesame	oil in general
darsana	sight, seeing	philosophical system
gavesana	searching a cow	research
lady	aristocatic woman	a woman in general
book	bark or tablet	book (of paper)

- Generalization is a word having a special sense be comes to be used in a wider sense

A careful examination of the above words would show that they are mostly examples of गौणीवृत्ति, a variety of लक्षणा.

3. Transference- Owing to the association of ideas, it often happens that a secondary sense attaches itself to a word and that secondary sense itself comes to be regarded as the primary sense.

Words	Original sense	Transferred sense
Gramya	rural	vulgar
Kavih	learned man	poet
Asura	God	demon
Wit	knowledge, intelligence	humour
Knave	boy	rogue

- A word's original meaning expands or changes as it becomes linked to new concepts or ideas

Breal has formulated three principles according to which semantic changes take place. They are:-

(1) The Law of Specialisation

(2) The Law of Differentiation

(3) The Law of Irradiation

Specialisation

- Explained and illustrated with reference to the specialisation of meaning

1. Specialisation-This has already been explained and illustrated with reference to the specialisation of meaning. With regard to the specialisation of suffixes, which is the result of human tendency for economy of effort, the comparative and superlative suffixes of Sanskrit may be taken for illustration.

In the I.E.parent language, there were many suffixes of comparative degree, which meant one of the two, such as ro, tero, for, etc. In Sanskrit, *apara, antara, adhara, madhyas, variyas,* etc., were reduced to two suffixes- *iyas* and *tara.* In the same manner, the suffixes of the superlative degree of the parent language *mo, temo, issimo*, etc., were reduced to issimo, while in Sanskrit adhama, antima, nedistha, etc., were reduced to two-*tama* and *isthan.* Such reductions or specialisations of the comparative and superlative suffixes are also found in Latin.

Latin- *superus, inferus, purrior> ior*

" *superus, intimus, dulcissimus >issimus.*

- The use of words derived from one root in different senses is known as Differentiation

2. Differentiation- The use of words derived from one root in different senses is known as Differentiation. The use of synonims to convey slightly different shades of meaning is also called differentiation. The words *manas, manus mati, manana* and *manyus* are all darived from the same root man to think but they convey different meanings. The words जीमूत, धन, वारिवाह, मेथ etc., or पङ्केरुह सरसिजं, कमलं, वारिजं etc. are synonims but they are used in different contexts to convey different shades of meaning.

- Irradiation involves extending a linguistic pattern or element beyond its original context

3. Irradiation-When a syllable or suffix found in words conveying a particular meaning is used in other words or roots conveying a different meaning, it is called Irradiation. E.g. - The use of छ of गच्छति, which belongs to the roots meaning movement (गत्यर्थ), with other roots like पृच्छति, ऋच्छति, etc., which have an entirely different meaning.

Other divisions of Samantic change

According to some scholars, further divisions of Semantic change are Pejoration, Association, Restriction, Expansion, Degradation, Elevation and Variation.

Pejoration

This denotes two kinds of Semantic change: (1) Deterioration in the sense of a word, and the veiled expression of what is disagreeable or repulsive.

- Pejoration denotes two kinds of Semantic change

(1) Examples of deterioration of meaning:-

Words	Original meaning	Deteriorated meaning
देवानां प्रियः-	beloved of Gods -	fool
ब्रह्मबन्धुः-	kinsman of a Brahmin -	unworthy Brabmis
पुण्यजन-	righteous man -	a demon
देवदासी-	a woman in the service of God -	a courtesan
असुरः-	God -	Demon

(2) Examples of veiled expression:-

Direct Expression	Veiled Expression
मृतः- dead	- पञ्चत्व गत : = Attained the state of the five elements

or परलोकं गत = Went to the other world

Died - Passed away.

- On account of association of meanings or due to similarity is called Association

Association- Assigning a new meaning to a word on account of the association of meanings or due to similarity is called Association. For example, the use of the word पाप meaning '*sin*' to mean the *sinner* is on account of association- (अभिधेयेन संबन्धात् लक्षणा ।). The use of the word पत्रं meaning '*leaf*' to denote '*paper*' is due to analogy since paper came as a substitute for the leaf which was originally used for writing.

Restriction and Expansion - are the same as specialisation and expansion already explained and illustrated.

Degradation- is the same as deterioration in meaning, as explained under Pejorative tendency.

- Elevation- is attaching a dignified meaning to a word

Elevation is attaching a dignified meaning to a word. For example, the word पालक, which originally meant the protector of cows, was later used in the elevated sense of the protector of the earth, i.e., *the king*. The use of the word सोम, which originally meant a creeper used for sacrifice, to denote the moon, or Siva associated with Parvati (उमया सह वर्तते इति सोमः), is also an example of Elevation. The use of the word गोपाल to denote Lord Krishna is another example of elevation.

Variation is the same as Differentiation, explained and illustrated earlier

- Doublets- The same word having two forms to express the same meaning

Doublets- The same word having two forms to express the same meaning is also the result of a semantic change. For example, the root *bhid* has two forms, bhitta and bhinna, to denote the same meaning of past participle. English words 'history' and 'story 'are also the result of semantic change.

Loss of old words and appearance of new words in a language to express new ideas are also subjects that come under Semantic studies.

Disappearance of old words-The Vedic words like देवीं पुरोडाश,आसन्दी, etc. have disappeared from classical Sanskrit. In Europe, many religious terms from the early period have disappeared since the advent of Christianity.

Appearance of new words-The words होरा, दीनार etc. are new Words in Sanskrit which appeared as a result of fresh contact with Greek people. The close contact with the English has resulted in modern Indian languages acquiring new words, such as "station ticket" and "hospital."

Causes of Semantic Change

- Important causes for Semantic change

Some important causes for Semantic change are:--

(1) Figurative speech and use of Metaphor

(2) Euphemism.

(3) Politeness in addressing others

(4) Irony.

(5) Vagueness of the meaning of certain words.

(6) Misunderstanding or ignorance of the correct meaning of words.

(7) Contact with new people speaking new languages.

(8) Emotional emphasis.

Summarised Overview

Semantics studies meaning and changes in word meanings. Three types of Semantic changes- Specialisation, Generalisation, and Transference. 1. Specialisation- Narrowing of meaning (e.g., "pankaja" from "mud-born" to "lotus"). 2. Generalization: Widening of meaning (e.g., "mantra" from "Vedic passage" to "mystic formula"). 3. Transference: Shifting of meaning due to association of ideas (e.g., "kavih" from "learned man" to "poet"). It also discusses other divisions of semantic change, such as Pejoration, Association, Restriction, Expansion, Degradation, Elevation, and Variation. Causes of Semantic Changes are: 1. Figurative Speech: Metaphorical usage. 2. Euphemism: Veiled expressions. 3. Politeness: Honorific language. 4. Irony: Sarcastic or opposite meaning. 5. Contact with New Language. 6. Misunderstanding or ignorance of the correct meaning of words. 7. Contact with new people speaking new languages. 8. Emotional emphasis. Semantics helps appreciate language dynamics. It's complex and influenced by human factors.

Assignment

1. What is semantics, and how does it differ from phonetics in the study of linguistic change?
2. What role do writers, poets, and readers play in shaping semantic changes?
3. What are the three main types of semantic change according to Tucker?
4. Provide examples of specialization, generalization, and transference in semantic change.
5. Explain the concept of Specialisation?
6. What are Breal's three principles of semantic change?
7. How does the type of changes reflect the dynamic nature of language?
8. What is pejoration, and how does it manifest in semantic change?
9. What is the concept of Elevation, and give an example?
10. How does association influence semantic change, and what are some examples?
11. What are some important causes of semantic change?
12. How does figurative speech contribute to semantic change?
13. Give an example of how contact with new people can lead to semantic change.

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Suggested Reading

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

BLOCK-04

Recent Trends in Linguistics

Block Content

Unit : 1 Structuralism, Langue-parole, Synchronic and Diachronic Linguistics

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ explain the foundational principles of structuralism and its focus on language system.
- ❖ differentiate between langue and parole with suitable examples.
- ❖ distinguish between synchronic and diachronic approaches to linguistic study.
- ❖ evaluate the significance of structuralism in the development of modern linguistic theories.

Background

What is language? Is it merely the words we speak, the grammar rules we memorize, or the accents that vary from place to place? Or is there something deeper- something more structured, more systematic, and more revealing about how we, as human beings, make sense of the world?

In this unit, we step into an essential moment in the history of linguistic thought, a moment when language was no longer seen as just a list of words or a tool for communication, but as a system with its own architecture, its own logic, and its own inner workings. This moment is marked by the rise of structuralism, a revolutionary framework that challenged traditional assumptions and reshaped modern linguistics.

Before we can explore the complexities of syntax or semantics, we must first ask: What is the structure beneath the surface of speech? What makes language possible, not just in usage, but in thought? These are the questions Ferdinand de Saussure, the father of modern structural linguistics, dared to ask.

He introduced us to langue and parole: two sides of the same linguistic coin. Langue, the invisible structure shared by a community; and parole, the individual, expressive act of speaking. And he offered us two lenses through which to view language: synchronic, the snapshot of a language in time; and diachronic, the unfolding of language through history.

To understand these concepts is not merely to understand linguistics. It is to understand how humans make meaning, how systems, signs, and structures shape not just our speech,

but our very perception of reality. So as we enter this unit, consider this: When we speak, are we expressing our individuality, or participating in a system far larger than ourselves? Is language a mirror of culture, or the mechanism that constructs it? This is the intellectual journey we now begin. Structuralism invites us to listen not only to what is said, but to the structure that makes saying possible.

Keywords

Structuralism (संरचनावाद), Langue and Parole, Synchronic and Diachronic linguistics, Aṣṭādhyāyī of Pāṇini, Bhartṛhari's Vākyapadīya, Patañjali, proto-structuralist

Discussion

4.1.1 Introduction

- Linguistic theory proposing language is studied as a structured system of interrelated elements

The study of language has taken many different forms over the centuries, ranging from historical analyses to philosophical inquiries, and more recently to scientific approaches that aim to understand language as a system. One of the most influential paradigms in linguistic theory during the twentieth century was structuralism. It proposed that language should be studied as a structured system of interrelated elements rather than as a collection of isolated words or phrases. It aimed to reveal the underlying patterns that govern language rather than focusing solely on language in use or its historical development. Within this broad framework, the concepts of langue and parole, as well as the distinction between synchronic and diachronic linguistics, became central to understanding how language functions both as a system and as a social phenomenon.

4.1.2 Structuralism: Foundations and Key Ideas

- Language viewed as a structured system of sign

Structuralism as a linguistic framework was most prominently developed by the Swiss linguist Ferdinand de Saussure in the early 20th century. Saussure argued that language is a structured system wherein the meaning of language units is determined not in isolation but by their relationships to other units within the system. This was a significant departure from earlier views that often considered words and meanings individually or as static entities.

At the heart of Saussure's structuralism is the idea that language consists of signs. A sign has two parts: the *signifier*, which is the sound or written form, and the *signified*, which is the concept or

- Meaning is based on agreement among language speakers

meaning associated with it. For example, the word "tree" is a signifier that points to the concept of a tall plant with branches and leaves. The connection between the signifier and the signified is arbitrary and conventional, meaning that there is no inherent or natural link between the sounds "t-r-e-e" and the idea of a tree; rather, it is a social agreement among speakers of the language.

- Meaning arises from position within language system.eg. "Cat" gains meaning from difference vs "bat", "rat", "dog"

Within the structuralist view, the value of a sign is determined by its difference from other signs. That is, words have meaning not because of what they are but because of what they are not. For instance, the meaning of the word "cat" depends on its difference from "bat," "rat," or "dog." This emphasis on difference and opposition is a defining trait of structuralism and underlines how meaning is relational and systemic.

Saussure insisted that linguistics should focus on *langue*, the abstract, systematic, and social side of language, which comprises the rules and conventions common to all speakers in a community. Language as a system allows communication and exists independently of the individual's use of it.

Sanskrit grammar is highly systematic and structured. It is codified in the ancient grammarian Panini's work "Aṣṭādhyāyī", composed around the 4th century BCE. The structure of Sanskrit grammar is characterized by its precision, logical organization, and comprehensive coverage of linguistic elements.

- Structuralism had its origin in the discipline of linguistics

Structuralism has been one of the most influential theories in the study of culture. Structuralism had its origin in the discipline of linguistics. It is a theoretical approach in linguistics, anthropology, and literary criticism has a fascinating relationship with Sanskrit, especially ancient Indian linguistic traditions. It emphasizes the study of underlying structures of language, culture, thought, behavior and society. Originating in linguistics, structuralism later expanded to various fields like anthropology, literary theory, and even architecture.

4.1.3 Sanskrit and Ancient Indian Linguistics as "Proto-Structuralist"

- Aṣṭādhyāyī is considered a "proto-structuralist" work due to its linguistics

Pāṇini's Aṣṭādhyāyī:- The most striking parallel lies with the ancient Indian grammarian Pāṇini (c. 5th-4th century BCE) and his monumental work, the Aṣṭādhyāyī. This text comprises eight meticulously crafted chapters, each housing aphorisms (सूत्रा's) that succinctly encapsulate rules governing the language's phonetics, morphology, and syntax. This text is often considered a "proto-structuralist" work due to its linguistics. The Aṣṭādhyāyī's enduring influence transcends its historical and cultural significance, extending into modern linguistic theory and even computational linguistics,

where its rule-based structure has inspired researchers exploring applications in natural language processing. Panini's linguistic legacy endures through the Paninian tradition, with scholars and grammarians continuing to study and contribute to the understanding of Sanskrit grammar and its broader implications in the realm of language.

a) Rules-based System: - Pāṇinis grammar is a highly sophisticated, algorithmic, and generative system of rules that precisely describe the structure of Sanskrit. It breaks down language into its formal components (phonetics, morphology, syntax) in a way that resonates with structuralist ideas of analysing language as a system. Panini's "Aṣṭādhyāyī" is organised into eight chapters, each referred to as an "Adhyāya." The structure of the "Aṣṭādhyāyī" is highly systematic, and each chapter is further divided into sections and rules. The core of the "Aṣṭādhyāyī" is the sūtra, which is an aphorism or a rule. Panini's sūtras are concise and use a symbolic notation that requires interpretation and commentary for a complete understanding.

- Aṣṭādhyāyī is highly systematic, and each chapter is further divided into sections and rules.

Panini's vyākaraṇa is divided into five parts or one main section and four supplementary sections, which provide additional information and classifications to aid in understanding the grammatical rules presented in the main text.

Sūtrapāṭha, dhātupāṭha, gaṇapāṭha, uṇādipāṭha, and liṅgānuśāsana are known as "pañcāṅgaṃ vyākaraṇaṃ" (Five parts of paniniyan grammar)

- Pāṇini's influence can be seen in the development of structuralism and generative grammar

b) Emphasis on Relationships: - Pāṇini's rules define linguistic units by their relationships and transformations, rather than by their inherent meaning in isolation.

c) Formal Rigor: - The Aṣṭādhyāyī's extreme formal rigor and systematic approach to language analysis anticipate many concepts later developed in modern linguistics, including aspects of structuralism and even generative grammar (Noam Chomsky was influenced by Saussure, who in turn was influenced by Pāṇini).

- Bhartṛhari's work is a systematic inquiry into how meaning is constructed within language

Bhartṛhari's Vākyapadīya: - Another significant text, Bhartṛhari's Vākyapadīya (c. 5th century CE), delves into the philosophy of language and meaning, exploring concepts like the "sphoṭa" (the holistic, undifferentiated meaning unit that underlies speech). While philosophical, its systematic inquiry into how meaning is constructed within language also aligns with structuralist concerns.

Scholarly Recognition: - Scholars like Frits Staal and George Cardona have highlighted the remarkable similarities between ancient Indian linguistic theories and structuralist methods, particularly their emphasis on systems, rules, and the relational nature of linguis-

tic elements.

4.1.4 Structuralist Readings of Sanskrit Literature

- Mahabharata and Ramayana analyzed through binary oppositions to uncover underlying narrative structures

a) Myth and Epics: Structuralist approaches have been applied to Sanskrit epics like the Mahabharata and Ramayana, analysing them in terms of binary oppositions, such as dharma/adharma, good/evil, hero/villain, and light/dark to uncover their underlying narrative structures of language and culture.

b) Nāṭya Śāstra: This ancient Indian treatise on dramatic arts and aesthetics, with its detailed codification of emotions (rasas) and dramatic elements, has also been interpreted using structuralist and semiotic frameworks to understand its systematic organization of artistic expression.

- Influence of Claude Lévi-Strauss

c) Claude Lévi-Strauss: Though not exclusively focused on Sanskrit, the prominent structural anthropologist Claude Lévi-Strauss often referenced Indian myths in his comparative studies, seeking universal structural patterns in mythologies across cultures.

4.1.5 Influence on Western Linguistics

- Saussure's work, influenced by Sanskrit linguistics, contributed to the development of structuralism in Western thought

Ferdinand de Saussure's Engagement with Sanskrit: Saussure often considered the father of modern linguistics and a key figure in structuralism was a professor of Indo-European linguistics and Sanskrit. Saussure argued that language is not a collection of individual words or sounds, but rather a system of signs that are interconnected and interdependent. He claimed that the meaning of a word is not determined by its reference to an external object or concept, but rather by its relationship to other words within the language system.

He was aware of and deeply impressed by Pāṇini's grammar. While his structuralist theories were a development in Western thought, the highly systematic and formal nature of Pāṇini's work provided an early model of linguistic analysis that resonated with his own ideas about language as a self-contained system.

4.1.6 Criticisms and Post-Structuralism

a) Limitations: Structuralism has faced criticism for it's a historical and overly systematized approach, sometimes overlooking the dynamic and fluid aspects of language and culture.

b) Post-structuralism and Derrida: Post-structuralist thinkers, like Jacques Derrida, while acknowledging the influence of structuralism (and by extension, the implicit parallels with Pāṇini), critiqued its foundational assumptions, particularly the idea of stable, self-con-

- Derrida critiqued structuralism's stable structures, engaging with principles similar to Pāṇini's linguistic analysis

tained structures and fixed meanings. Derrida's concept of deconstruction, for instance, challenges the notion of a definitive "outside text" and emphasizes the inherent ambiguity and slipperiness of meaning within language. While Derrida's work is critical of structuralism, it engages with the very linguistic principles that structuralism, and ancient Indian grammar, had systematized.

In essence, while structuralism emerged as a distinct intellectual movement in the West, the profound analytical insights and systematic approach of ancient Indian grammarians like Pāṇini offered a compelling historical precedent and a sophisticated model for understanding language as a structured system, thereby creating an intriguing intellectual dialogue between these seemingly disparate traditions.

4.1.7 Applications of Structuralism

- Structuralism has been applied in various fields

Structuralism has been applied in various fields, including:

1. Linguistics: Structuralism has been used to analyze the underlying structures of language and to understand the nature of meaning.
2. Anthropology: Structuralism has been used to study the underlying structures of culture and to understand the nature of cultural practices.
3. Literary Criticism: Structuralism has been used to analyze the underlying structures of literary texts and to understand the nature of meaning in literature.

4.1.8 Langue and Parole: The Dual Aspects of Language

- Langue is a collective, abstract system stored in the minds of the community members

A major contribution of Saussure's work was his distinction between langue and parole, which has had a lasting impact on linguistic theory.

Langue is the social side of language. It encompasses the shared rules, norms, and conventions that make communication possible among members of a speech community. Langue is a collective, abstract system stored in the minds of the community members. It includes grammar, vocabulary, and pronunciation rules- everything that makes language systematic.

In the context of Sanskrit, "langue" would encompass the grammatical rules, vocabulary, and sound system of the language, while "parole" would refer to the specific ways Sanskrit speakers use the language in their spoken and written communication.

Parole refers to individual speech acts, the concrete manifestations of language in use. It involves the actual speaking and writing by individuals. Whereas langue is the system known collectively, parole is variable, personal, and specific to time and place.

- Linguists focus on different levels of language study

To illustrate the difference, consider langue as the rules of chess, which are known and agreed upon by all players. Parole is the actual moves made during a specific game. One cannot understand or play the game without knowledge of the rules (langue), but every game (parole) is unique because of the particular moves played.

This distinction helped linguists focus on different levels of language study. While parole is concerned with language in practice, including all its irregularities and variations, langue represents the stable system underlying those uses. Saussure argued that linguistic study should prioritise langue because it reveals the structure of language, free from the noise of individual variation.

Parole (individual Speech Act):

- Parole can be represented by the Sanskrit term "वाक्-व्यक्तिः"

Parole refers to the concrete, individual acts of speaking or writing in a language. It's how people actually use the language in real-world situations. This can be represented by the Sanskrit term "वाक्-व्यक्तिः" (vāk-vyaktiḥ), which refers to the individual speech act or utterance. For Sanskrit, parole would encompass the specific utterances, sentences, and texts that Sanskrit speakers create, taking into account their individual style, context, and purpose.

In Sanskrit, the distinction between langue and parole can be understood as the difference between "भाषा-सामान्यम्" (bhāṣā-sāmānyam), the general language system, and "वाक्-व्यक्तिः" (vāk-vyaktiḥ), the individual speech act.

- Sphoṭa refers to the underlying, abstract structure of language

The Indian grammarian Patañjali, in his Mahābhāṣya, discusses the concept of "स्फोट"(sphoṭa), which is similar to the concept of langue. Sphoṭa refers to the underlying, abstract structure of language, which is distinct from the individual speech acts (parole).

Sanskrit as an Example: Sanskrit, being a classical language, has a well-defined "langue" in the form of its grammar rules and lexicon. This "langue" provides the framework for constructing meaningful sentences.

However, Sanskrit "parole" would involve the specific ways individuals used this framework, considering the different styles of Vedic Sanskrit, Classical Sanskrit, or the various regional dialects that might have existed.

In essence, Saussure's langue-parole distinction helps us under-

stand that language is not just a collection of words and rules, but also a dynamic system of communication shaped by both the underlying structure and individual usage. Langue refers to the underlying system of rules, grammar, and vocabulary of a language, while parole is the individual's actual use of language, including speaking and writing.

4.1.9 Synchronic and Diachronic Linguistics

To complement the langue-parole distinction, Saussure also introduced the methodological divide between *synchronic* and *diachronic* linguistics. These two approaches differ in terms of their focus on time and language analysis.

Synchronic linguistics studies language at a specific point in time, without considering its historical development. It examines the system of language as it exists in the present or at any given stage, focusing on the rules, structures, and relationships that make communication possible at that moment. For example, studying present-day English grammar, phonetics, and vocabulary without reference to how the language evolved falls under synchronic linguistics.

Diachronic linguistics, by contrast, studies language through time, tracking how it changes across generations. It investigates historical developments in phonology, morphology, syntax, and semantics, examining why and how languages evolve. This approach is central to comparative linguistics and historical linguistics, which aim to reconstruct earlier forms of languages and trace their genetic relationships.

The distinction between synchronic and diachronic analysis is important because language phenomena can often look very different depending on whether one focuses on the system at a single point in time or its historical trajectory. For instance, the irregularities in English spelling and grammar are often better understood by considering the language's history (a diachronic perspective), whereas understanding the rules for sentence formation requires a synchronic approach.

Though these approaches may seem opposed, they are complementary. A full understanding of language requires studying it both as a system in the present and as a historical entity constantly evolving. Modern linguistics often integrates both perspectives to provide a richer picture of language.

- Synchronic analysis focuses on the structure and function of the language

In Sanskrit, synchronic linguistics studies the language at a specific point in time, while diachronic linguistics examines its evolution over time. Synchronic analysis focuses on the structure and function

of the language as it exists at a given moment, while diachronic analysis explores how the language has changed through history.

- Diachronic analysis explores how the language has changed through history

Synchronic Linguistics: Analyzes the language at a particular point in time, like Classical Sanskrit or Vedic Sanskrit.

Diachronic Linguistics: Studies the historical development of the language, including sound changes, grammatical evolution, and semantic shifts.

4.1.10 Linguistic Structuralism beyond Saussure

While Saussure laid the foundation for structuralism in linguistics, the approach was further developed and expanded by other scholars in the 20th century. Structuralism became the dominant framework for studying language during the mid-century, influencing not only linguistics but also anthropology, literary theory, and philosophy.

One influential school was the Prague School of Linguistics, which applied structuralist principles rigorously to phonology and phonetics. Scholars such as Roman Jakobson introduced the idea that linguistic features gain their identity not in isolation but through opposition in a system, such as contrasting sounds in a language. Their work helped establish phonology as a scientific discipline focused on linguistic units functional in a given language.

In the United States, Leonard Bloomfield was a leading figure of American structuralism who promoted a rigorous, behaviourist study of language based on observable data rather than abstract theorising. Bloomfield's descriptive approach emphasised detailed analysis of phonemes, morphemes, and syntax as distinct units within language systems.

- Post-structuralists also challenged structuralism's assumption of fixed meanings and binary oppositions

Despite its influence, structuralism was eventually critiqued and supplanted by other theories, including generative grammar, post-structuralism, and cognitive linguistics. Critics argued that structuralism's emphasis on langue neglected much about the variability and creativity of parole, or language use in real life. Post-structuralists also challenged structuralism's assumption of fixed meanings and binary oppositions, emphasising the fluidity and ambiguity of language.

Nonetheless, structuralism remains a crucial starting point for linguistic analysis and provides valuable tools for understanding language as an organised system.

4.1.11 The Practical Impact of the Langue-Parole and Synchronic-Diachronic Distinctions

The theoretical distinctions Saussure introduced have practical

consequences for linguistic study and language teaching.

Langue (Language System):

- Langue can be represented by the Sanskrit term "भाषा-सामान्यम्"

Langue is the shared, abstract system of rules and conventions that allows for communication within a speech community. It's like the underlying code or grammar that speakers of a language implicitly understand and use. For Sanskrit, this would include the rules of Sanskrit grammar (like its complex verb conjugations and noun declensions), the vocabulary, and the sound system. This can be represented by the Sanskrit term "भाषा-सामान्यम्" (bhāṣā-sāmānyam), which refers to the general system of language.

In language teaching, for example, the focus on langue corresponds to teaching grammar rules and vocabulary as the system to be learned. Parole would relate to practising real conversations and productions of language by learners. Effective language instruction balances these aspects, teaching both the system and encouraging practical use.

In literary studies and discourse analysis, researchers often examine parole, the actual use of language in texts and conversations, to understand meaning, style, and social interaction. Meanwhile, documentary linguists and language planners may focus on langue to develop standardised grammar and dictionaries.

The synchronic approach is crucial for describing and standardising languages, while the diachronic approach explains the origins of irregularities and language change, informing translation studies and dialectology.

The structuralist view, emphasising language as a system of signs defined by relationships, changed linguistic analysis fundamentally. The division between langue (language system) and parole (language use) provides a useful lens to distinguish between abstract knowledge and actual speech. Meanwhile, the synchronic and diachronic distinction clarifies different methodological approaches to language study, whether at a fixed time or across historical change.

Summarised Overview

Language studied as structured system of interrelated elements. Signs consist of signifier and signified. Connection between signifier and signified is arbitrary. Value of signs defined by differences with others. Langue is shared abstract social system of language. Parole is individual speech acts actual language use. Synchronic linguistics studies language at one specific time. Diachronic linguistics examines historical change across generations. Bloomfield advanced descriptive analysis of American structural linguistic.

Structuralism (संरचनावाद): Refers to the theoretical approach that emphasizes the underlying structures of language. Pāṇini's rules define linguistic units by their relationships and transformations, rather than by their inherent meaning in isolation. The Aṣṭādhyāyī's extreme formal rigor and systematic approach to language analysis anticipate many concepts later developed in modern linguistics, including. Vākyapadīya- A significant text written by Bhartṛhari (c. 5th century CE) that delves into the philosophy of language and meaning. Sphoṭa- The text explores the concept of "sphoṭa", which refers to the holistic, undifferentiated meaning unit that underlies speech. Langue (भाषा-सामान्यम्)refers to the general system of rules and conventions that allows for communication within a speech community. Parole (वाक्-व्यक्तिः): Refers to the individual acts of speaking or writing in a language. Synchronic Linguistics (सहसमयिक भाषाविज्ञान) study of language at a particular point in time, like Classical Sanskrit or Vedic Sanskrit. Diachronic Linguistics (कालांतरिक भाषाविज्ञान): Examines the historical development of the language, including sound changes, grammatical evolution, and semantic shifts.

Assignment

1. Critically examine Saussure's concept of the linguistic sign. How does the arbitrary relationship between signifier and signified shape our understanding of meaning in language?
2. Discuss the distinction between langue and parole. Illustrate with examples how this duality helps in analysing language as both a social system and an individual practice.
3. Explain the difference between synchronic and diachronic approaches to linguistics. Why did Saussure insist on prioritising synchronic analysis, and how do modern linguists balance both perspectives?
4. Evaluate the contributions of the Prague School and Leonard Bloomfield to the development of structural linguistics. In what ways did they extend Saussure's ideas?
5. Structuralism has been critiqued by later linguistic theories such as generative grammar and post-structuralism. Discuss the limitations of structuralism and assess its continuing relevance in linguistic studies.

6. What is the significance of Pâṇini's Aṣṭādhyāyī in the context of structuralism?
7. How does Pâṇini's grammar system relate to modern linguistic theories?
8. What was Ferdinand de Saussure's engagement with Sanskrit, and how did it influence his structuralist theories?
9. What is the difference between langue and parole in Sanskrit?
10. How does the concept of sphoṭa relate to langue in Sanskrit?
11. What is the focus of synchronic linguistics in Sanskrit?
12. How does diachronic linguistics examine the historical development of Sanskrit?
13. Give an example of langue in Sanskrit?
14. How synchronic and diachronic linguistics are used in the study of Sanskrit?

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1. Saussure, Ferdinand de. *Course in General Linguistics*. Edited by Charles Bally and Albert Sechehaye, translated by Wade Baskin, Philosophical Library, 1959.
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SGOU

Unit : 2 Transformational Generative Grammar

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ explain the origins and theoretical foundations of Transformational Generative Grammar.
- ❖ distinguish between deep structure and surface structure in sentences.
- ❖ apply transformational and phrase structure rules to analyse sentence patterns.
- ❖ evaluate the significance, critiques, and modern developments of Chomsky's theory.

Background

Transformational Generative Grammar (TGG) stands as a monumental turning point in the history of linguistics. Emerging in the mid-twentieth century, it challenged the descriptive boundaries of structuralism and introduced a vision of language as a creative, rule-governed, cognitive system. With Noam Chomsky at its helm, this theory provided linguists with a powerful tool to understand not only how sentences are formed but also how infinite expressions arise from finite means. TGG is not merely a theory of syntax; it is a rhetorical framework that bridges language, thought, and human creativity. It compels learners to look beyond words on the page and perceive the deep, often invisible structures that govern meaning and communication. In doing so, it aligns linguistic analysis with philosophy, logic, and cognitive science- broadening the horizons of how language itself is studied and understood.

Keywords

Transformational Generative Grammar(TGG), Construction Grammar, Cognitive Linguistics, Image Schema, Conceptual Metaphor, Cognitive Processes

Discussion

Transformational Generative Grammar (TGG) is one of the most influential theories in modern linguistics. Developed by Noam Chomsky in the late 1950s and early 1960s, TGG revolutionised the study of syntax and language structure by introducing a formal system that explains how speakers generate an infinite variety of grammatical sentences in their language. Unlike earlier structuralist approaches, which primarily described language as a system of signs at a given moment, TGG focuses on the underlying cognitive processes that govern sentence formation. Chomsky's theory goes beyond descriptive grammar and seeks to uncover the mental rules and principles that enable humans to produce and understand sentences they might never have heard before.

4.2.1 Origins of Transformational Generative Grammar

Before the emergence of transformational generative grammar, most linguistic theory adhered to structuralism, which analysed language primarily as a set of structural relationships between signs. Structural linguistics focused on surface phenomena, such as phonemes, morphemes, and simple syntax, without addressing the deeper cognitive abilities underlying language production.

Noam Chomsky, working as a linguist at the Massachusetts Institute of Technology, challenged this approach. In his seminal work, *Syntactic Structures* (1957), Chomsky proposed that language is governed by innate mental structures and rules that generate all possible grammatical sentences. His work was inspired partly by developments in formal language theory and computer science, where rules and algorithms were used to generate and recognise strings of symbols.

Chomsky argued that the descriptive grammar of structuralists was insufficient to explain language creativity because they only accounted for what speakers already said or heard. Instead, he posited that speakers have tacit knowledge of a generative grammar a system of rules that enables them to produce and understand an unlimited number of new sentences, including those they have never encountered before.

This shift from a descriptive to a generative model of language fundamentally changed linguistic theory and opened the door to the study of language as a cognitive phenomenon.

4.2.2 Core Concepts of Transformational Generative Grammar

1. Generative Grammar

Generative grammar refers to a set of formal rules capable of producing (or generating) every grammatical sentence in a language. These rules are designed to describe the underlying structure of sentences in a way that captures linguistic intuition about what is grammatical and what is not.

Generative grammar operates on abstract units such as phrases and constituents, assigning structural relations between these components. Instead of merely listing sentences or patterns, generative grammar provides the generative process, a finite set of rules that can produce an infinite number of sentences.

2. Deep Structure and Surface Structure

One of the most important insights of TGG is the distinction between *deep structure* and *surface structure*. These two levels represent different stages in the formation of sentences.

The deep structure is an abstract representation that captures the core semantic relations and syntactic roles in a sentence. It reflects the meaning or logical form underlying a sentence, independent of its actual spoken or written form.

The surface structure is the final syntactic form of the sentence, the version that is actually expressed in speech or writing. Surface structure is what we hear or see and often involves modifications from the deep structure.

For example, the active sentence "The cat chased the mouse" and its passive counterpart "The mouse was chased by the cat" share a similar deep structure because they convey the same underlying meaning. However, their surface structures differ due to transformations applied to the original deep structure.

3. Transformations

Transformations are operations or rules that convert one structure into another. They link the deep and surface structures in the generative process. Transformational rules take the basic components derived from the deep structure and rearrange or modify them to produce the sentences we actually use.

Common types of transformations include:

- **Passive transformation**, which changes an active sentence into a passive one (e.g., "John kicked the ball" → "The ball was

kicked by John").

- **Question formation**, which moves an auxiliary verb to the beginning of a sentence to create a question ("You are coming" → "Are you coming?").
- **Negation**, which inserts or moves elements to form negative sentences.
- **Movement transformations**, which alter the position of words or phrases within a sentence. Transformations explain how related sentences with different word order or function can stem from the same underlying structure.

4. Phrase Structure Rules

Another essential component is phrase structure rules, which specify how words combine to form constituents like noun phrases (NP) or verb phrases (VP). These rules outline the hierarchical organisation of sentences.

For example, a simple phrase structure rule might be:

S → NP + VP

This means a sentence (S) consists of a noun phrase followed by a verb phrase. Each of these constituents can be further broken down using additional rules.

Phrase structure rules build the initial deep structure from which transformations begin.

5. The Competence-Performance Distinction

Chomsky introduced an important distinction between *competence* and *performance*. Competence is the speaker's knowledge of the language system, the implicit mastery of linguistic rules. Performance refers to the actual use of language in real situations, which may be affected by memory limitations, errors, or distractions.

Generative grammar focuses on competence, aiming to describe the idealised knowledge that underlies language use. This distinction allowed linguists to separate theoretical models of language from the messiness of everyday speech.

4.2.3 Significance and Impact of TGG

Transformational generative grammar had a profound effect on linguistics. Firstly, it introduced a scientific and formal method of studying language, using rule-based systems similar to those in mathematics and computer science. This shifted linguistics towards a cognitive science concerned with the mental capacities that make

language possible.

Secondly, TGG emphasised the creativity of language use, explaining how speakers can understand and produce sentences they have never heard before. This was a major theoretical advance over structuralism's reliance on observed utterances.

Thirdly, the theory contributed to the study of language acquisition. Chomsky argued that children acquire complex grammatical rules rapidly despite limited input, suggesting an innate universal grammar underlying all human languages. This idea gave rise to the *Generative Grammar* programme and the study of universal principles.

Furthermore, TGG stimulated research into many areas of linguistics, including syntax, semantics, phonology, and psycholinguistics. It inspired various offshoots and revisions, such as Government and Binding Theory and the Minimalist Programme, which continue to shape linguistic research today.

4.2.4 Critiques and Alternatives

Though transformational generative grammar has been influential, it has also faced criticism. Some linguists argue that its focus on deep abstract structures neglects the role of language use, social context, and variation. Critics from functional and cognitive linguistics suggest that language structure emerges from communication needs and cognitive processes, not primarily from innate formal rules.

Others point out that TGG's formalism can become overly complex, making it difficult to apply to real language data, especially in languages with freer word order or more variable syntax.

Nevertheless, many concepts introduced by Chomsky continue to influence linguistic theory, while alternative approaches complement or challenge certain aspects.

4.2.5 Modern Developments Related to TGG

In recent decades, Chomsky himself has revised and refined his theory through the Minimalist Programme, seeking to reduce complexity and explain language with the simplest possible rules and principles. Minimalism aims to identify universal properties of human language and the essential mechanisms that underpin grammar.

Meanwhile, advances in computational linguistics have taken inspiration from generative grammar to develop parsing algorithms and formal language models. Some language-processing systems simulate transformational rules to analyse sentence structure.

Additionally, psycholinguistic research investigates how gener-

ative principles manifest in real-time language comprehension and production, testing predictions about mental representations of deep and surface structure.

Transformational Generative Grammar (TGG) in Sanskrit is an intriguing topic. While Noam Chomsky's TGG theory was primarily developed for modern languages, its principles can be applied to ancient languages like Sanskrit.

4.2.6 Concepts of TGG in Sanskrit

Deep Structure: The underlying abstract representation of a sentence in Sanskrit, capturing its core meaning.

- Concepts of TGG in SanskritDeep Structure, Surface Structure, Transformations, Phrase Structure Rules

Surface Structure: The final form of the sentence, produced after applying transformations to the deep structure.

Transformations: Rules that convert deep structures into surface structures, such as subject-verb inversion or passive transformation.

Phrase Structure Rules: Describe the basic syntactic structure of Sanskrit sentences, specifying how words and phrases combine to form larger units.

4.2.7 Applying TGG to Sanskrit

- Applying Transformational Generative grammar to Sanskrit

1. Helps understand the underlying structure of Sanskrit sentences.
2. Provides insights into the syntax and semantics of Sanskrit.
3. Can be used to analyze and generate Sanskrit sentences.

While TGG was not directly applied to Sanskrit by Chomsky, the principles of TGG can be used to the structure of Sanskrit sentences phrases combine to form larger units.

4.2.8 Pāṇini's Grammar and Modern Theoretical Views

In modern theoretical views on Pāṇini's grammar (ca. 350 BCE) argues that new possibilities for progress open up by confronting Pāṇini's grammar. Pāṇini's grammar is generative, meaning it provides rules to generate an infinite number of sentences from a finite set of rules.

- Pāṇini's grammar is generative, meaning it provides rules to generate an infinite number of sentences from a finite set of rules

1**. Construction grammar:** - Construction Grammar is a linguistics that emphasizes the importance of constructions, which are pairings of form and meaning. In Sanskrit, Construction Grammar can be used to different constructions convey meaning.

Eg- Consider the Sanskrit construction "गम् + कर्तृ" (*gam* + *kartṛ*), which means "the one who goes" which is an agentive noun. The verb

"गम्" (gam) provides the basic meaning of "going". The suffix "कर्तृ" (kartṛ) adds the meaning of "agent" or "doer".The combination of the verb and suffix creates a new construction with a specific meaning.

2. Cognitive linguistics: - Cognitive Linguistics is a linguistics that emphasizes the role of cognitive processes in shaping language. In Sanskrit, Cognitive Linguistics can be used to analyze how language reflects cognitive structures and processes. Example- Consider the Sanskrit concept of "काल" (*kāla)*, which means "time". Time is conceptualized as a moving object, as in the phrase "कालो गच्छति" (*kālo gacchati),* "time goes", action is used to understand the concept of time.

This approach provides new perspectives on old problems in the study of Pāṇinian grammar.

The article focuses on general technical aspects of Pāṇini's grammar.It is the counterpart of a recent study on Bhartṛhari's (5th cent. CE) theory of Pāṇini's grammar.

Transformational Generative Grammar represents a milestone in linguistic theory. It redirected the study of language from description towards explanation of the underlying cognitive principles. By distinguishing deep and surface structures and introducing transformations, it provided a powerful framework to understand sentence formation and linguistic creativity. Although it has evolved and faced criticism, TGG's influence is visible across modern linguistics, cognitive science, and computational language research.

Understanding TGG equips students with insight into how grammatical rules function at a mental level and how complex variations in language arise. It also offers a foundation for appreciating later linguistic theories and their goals in uncovering the nature of human language.

Summarised Overview

Transformational Generative Grammar (TGG) is a linguistics developed by Noam Chomsky. When applied to Sanskrit, TGG provides insights into the underlying structure of the language and how it generates sentences. Pāṇini's grammar is a meaning it provides rules to generate an infinite number of sentences from a finite set of rules. Construction Grammar is a linguistics that emphasizes the importance of constructions, which are pairings of form and meaning. In Sanskrit, Construction Grammar can be used to different constructions convey meaning. Cognitive Linguistics is a linguistics that emphasizes the role of cognitive processes in shaping language. In Sanskrit, Cognitive Linguistics can be used to language reflects cognitive structures and processes.

Assignment

1. Discuss the origins and foundational principles of Transformational Generative Grammar.
2. Compare and contrast deep structure and surface structure with examples.
3. Evaluate the significance of transformational rules in sentence formation.
4. Critically examine the impact and criticisms of TGG.
5. How has the Minimalist Programme refined Chomsky's original theory?
6. What is Transformational Generative Grammar (TGG)?
7. What is the deep structure of a Sanskrit sentence?
8. How do transformations work in TGG?
9. What is the relationship between Pâṇini's grammar and TGG?
10. What is Construction Grammar? Give an example of a construction in Sanskrit?
11. How does Construction Grammar analyze the form and meaning of a sentence?
12. What is the significance of the suffix "कर्तृ" (kartṛ) in the example construction?
13. What is Cognitive Linguistics? Give an example of a conceptual metaphor in Sanskrit?
14. How does Cognitive Linguistics analyze the concept of time in Sanskrit?

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SGOU

Unit : 3 Computational Linguistics

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ discuss the origins and foundational principles of Transformational Generative Grammar.
- ❖ compare and contrast deep structure and surface structure with examples.
- ❖ evaluate the significance of transformational rules in sentence formation.
- ❖ critically examine the impact and criticisms of TGG.
- ❖ how has the Minimalist Programme refined Chomsky's original theory?

Background

Language is humanity's oldest and most intricate code. Long before we built machines, conquered the skies, or sent signals into space, we mastered the ability to convey thoughts through spoken symbols and written signs. With language, we transmit not only information but identity, culture, humor, irony, emotion, and intent. Every word we speak or write carries not just meaning, but layers of meaning, woven from context, tone, and shared understanding. It is a miracle we perform daily without thinking.

But what if we asked a machine to perform this miracle?

What happens when we try to teach computers the very essence of being human: our language? Not just to store or process it, but to understand it, interpret it, and respond with nuance? This question, at once thrilling and daunting, gave birth to a field at the crossroads of computer science and linguistics: computational linguistics.

It is a field where the rigid logic of machines meets the fluid ambiguity of human expression. Where binary systems must reckon with metaphors, double meanings, and emotional nuance. Where the precision of algorithms collides with the unpredictability of spoken word.

Computational linguistics is not simply about programming machines to speak; it is about teaching them to listen, to understand, and to make sense of the dynamic, ever-evolv-

ing nature of human communication. It is the science behind the search engine that finishes your question before you ask it, the voice assistant that follows your commands, the translator that bridges global conversations, and the chatbot that, sometimes eerily, responds like a human. As we stand at the frontier of artificial language understanding, computational linguistics plays a pivotal role in shaping the way humans and machines coexist.

Keywords

Computational Linguistics, Parsing, Language Modeling, Semantics, Machine Translation, Structuralist Theories, Astronomy, Ayurveda

Discussion

Computational linguistics is a discipline that lies at the intersection of language and computers. It combines the study of language, called linguistics, with computing and artificial intelligence. The aim is to help machines understand, interpret, and generate human language. This is not an easy task since human languages are often complicated, full of different meanings, ambiguous phrases, and dependent on the context in which they are used. By applying computational methods to language, researchers hope to teach computers to comprehend and work with language just as people do. This field is fundamental for a variety of applications today, such as machine translation, speech recognition, and chatbots.

4.3.1 Early History and Development

The origins of computational linguistics date back to the mid-20th century, when the first computers became available. In the 1950s, important figures like Alan Turing raised questions about whether machines could think or understand language. Turing's famous question, "Can machines think?" laid the groundwork for artificial intelligence and the idea that computers could one day process human languages. Around the same time, linguists such as Noam Chomsky proposed influential theories about the structure of language. His transformational generative grammar explained how sentences are formed from a deep set of rules and transformations. These ideas were crucial because they provided a way to think about language in formal terms, which could then be translated into computer instructions.

For many years, researchers tried to build rule-based systems that told machines exactly how to process language. This meant writing complex sets of linguistic rules by hand, which was both time-consuming and limited in scope. However, it laid the foundation for the tools and techniques that followed. Over time, as computers became more powerful and larger collections of text, called corpora, became available, the field shifted towards statistical methods. Instead of relying only on strict rules, computers started learning patterns of language use from examples. This marked a significant change from purely linguistic theory towards applied computational methods.

4.3.2 The Basic Concepts of Computational Linguistics

Computational linguistics involves several key areas, including modelling the structure of language, understanding its meaning, and using context to interpret usage.

At the heart of many computational systems is language modelling. Language modelling is about predicting what words are likely to come next in a sentence. In early computational linguistics, this was done using simple statistical models called n-grams. These models look at a fixed number of preceding words to predict the next one, for instance considering two or three words at a time. However, human languages have long-distance dependencies and complex grammar, which n-grams could not fully capture.

Later, artificial neural networks were introduced to better model languages. Inspired by the brain, neural networks can recognise deeper patterns in data. They allow computers to learn language structure more flexibly by processing words as vectors in multi-dimensional space, a concept known as word embedding. These embeddings capture not only direct meanings but also relationships between words based on their use in sentences, such as the similarity between “king” and “queen.”

Another crucial concept in computational linguistics is parsing or syntactic analysis. Parsing involves breaking sentences into parts and understanding their grammatical structure. Imagine diagramming a sentence to see which parts are the subject, object, and verb, and how these parts relate to each other. Early parsers used context-free grammar, which formalise rules about how parts of a sentence can be arranged. Modern parsers often combine grammar rules with probability distributions to handle ambiguous sentences or unusual constructions. This combination improves their ability to parse correctly in real-world language use.

Semantics, the study of meaning, is an area where computational linguistics faces significant challenges. Words can have multiple meanings and understanding how the meaning changes when words combine in a sentence is difficult for computers. Techniques such as semantic nets and ontologies have been developed to represent meaning networks and relationships between concepts. More recently, distributional semantics, based on the idea that words appearing in similar contexts have similar meanings, has been applied widely. This has greatly enhanced computers' ability to understand and generate meaningful text.

Pragmatics and discourse are areas concerned with how language is used in context and over stretches of text. Computers need to understand how the meaning of a sentence depends on the situation and what has been said before, particularly in conversations or longer texts. Modelling context, resolving pronouns, and keeping track of dialogue history are some of the challenges computational linguistics attempts to solve to create better interactive systems.

4.3.3 Methods in Computational Linguistics

- Methods in computational linguistics involved symbolic or rule-based approaches

The techniques used in computational linguistics have evolved greatly over time. The earliest methods involved symbolic or rule-based approaches. These systems depended on experts crafting detailed rules about syntax, semantics, and language structure. Although they were precise and interpretable, they were limited by the complexity and variety of natural languages. Creating rules for all the exceptions and nuances was practically impossible.

This led to a shift towards statistical and machine learning approaches. By analysing large collections of text data, computers could learn language patterns without needing explicit rules. Hidden Markov Models and Conditional Random Fields were among the first statistical tools used to tag parts of speech or segment sentences. These methods improved performance and allowed systems to adapt to new data.

More recently, the most significant advances come from deep learning, a subset of machine learning. Deep learning models, especially those based on transformer architectures, have greatly improved the ability to process and generate human language. Models like BERT (Bidirectional Encoder Representations from Transformers) and GPT (Generative Pre-trained Transformer) have shown remarkable capabilities in understanding context, answering questions, and even writing essays. These models are trained on enormous datasets and are taught to represent language in a highly nuanced way.

4.3.4 Applications of Computational Linguistics

Computational linguistics has many practical applications that impact everyday life. One of the earliest and most ongoing applications is machine translation. This involves automatically translating text or speech from one language to another. Early machine translation systems relied heavily on dictionaries and rules, which often produced inaccurate results. However, statistical machine translation improved results by learning direct mappings from bilingual corpora. Today, neural machine translation has become the standard and delivers translations that are much more fluent and context aware.

- Speech recognition and speech synthesis are closely related fields relying on computational linguistics

Speech recognition and speech synthesis are closely related fields relying on computational linguistics. Speech recognition converts spoken language into text and powers virtual assistants such as Apple's Siri or Amazon's Alexa. Meanwhile, speech synthesis turns written text into natural-sounding speech, which is essential for voice applications for people with disabilities or smart devices.

Information retrieval is another important area. Search engines like Google use linguistic techniques to understand user queries better and find relevant documents. This requires understanding synonyms, intent, and the overall meaning behind the words typed in a search box. Information extraction techniques then help identify names, dates, and key information from a large text corpus to create structured data useful for analysis.

Sentiment analysis, which identifies opinions, attitudes, or emotions in text, is important in many areas such as marketing and social media monitoring. It helps companies gauge public responses to products or political events by automatically analysing vast amounts of written text.

Lastly, conversational agents or chatbots have become commonplace, serving as customer support and personal assistants. Effective chatbots rely heavily on computational linguistics to interpret user questions, manage dialogue flow, and generate natural responses.

4.3.5 Recent Trends in Computational Linguistics

- Computational linguistics has witnessed several important trends that have transformed the field

In recent years, computational linguistics has witnessed several important trends that have transformed the field. One of the most prominent has been the development of large language models. These models are trained on enormous amounts of text using deep learning and have demonstrated the ability to generate coherent, context-aware text that can often be mistaken for human writing. This breakthrough has enabled new possibilities in drafting texts, summarising information, and translating languages, making natural

language generation a realistic application.

Another trend is the rise of multimodal models that combine language with other types of data such as images, audio, and video. These systems aim to create machines that understand and communicate in ways like humans, who use multiple senses simultaneously to grasp meaning.

Work in building models that can operate in multiple languages and low-resource languages is gaining importance. Many languages around the world have little digital text available for training machine learning models. Researchers are exploring techniques that allow models trained on resource-rich languages to adapt to others with fewer data, helping preserve linguistic diversity.

- As computational linguistics grows, ethical considerations have come to centre stage

As computational linguistics grows, ethical considerations have come to centre stage. Language models can inherit and even amplify biases present in the data they are trained on. They can also be exploited to create misinformation or invade privacy. This has led to increased focus on transparency, fairness, and responsible use of language technology.

4.3.6 Challenges Ahead

Despite many advances, computational linguistics faces ongoing challenges. Language is inherently ambiguous, and many expressions have multiple meanings depending on context and cultural background. Resolving this ambiguity remains difficult for machines. Moreover, humans frequently use figurative language such as metaphors, idioms, and sarcasm, which are hard to interpret computationally.

- Computers also struggle with pragmatic aspects of language

Computers also struggle with pragmatic aspects of language, such as understanding implied meaning, speaker intent, and emotional nuance. Conversation modelling, especially for open-ended dialogue, remains an area that requires much improvement. As technologies extend into real-time applications like simultaneous translation or interactive robots, efficiency becomes another critical factor.

Ensuring that language models do not perpetuate social biases, stereotypes, or inaccuracies is a major social responsibility for the field. Researchers continue working on methods to audit, mitigate, and explain the behaviours of complex language systems.

4.3.7 The Future of Computational Linguistics

Looking ahead, computationl linguistics is expected to deepen its collaboration with cognitive science and psychology. The goal is to develop models that not only process language but also mimic hu-

man understanding and reasoning more closely. Future systems may better grasp human emotions, cultural contexts, and subtle cues in communication.

Expanding support for underrepresented languages and dialects will make digital communication more inclusive. Advances in multimodal AI will create richer interfaces that combine vision, speech, and language.

At the same time, ethical AI research will shape policies and standards ensuring language technologies are used fairly and safely.

- The Indian grammatical tradition has three schools of shabdabodha: vyakarana, nyaya, and mīmansa

Ultimately, computational linguistics will continue to transform how we interact with machines, enabling more natural, intelligent, and personalised communication.

The Indian grammatical tradition with three schools of shabdabodha viz. vyakarana, nyaya, and mımansa offer various levels of linguistic analysis which is directly relevant to computational linguistics.

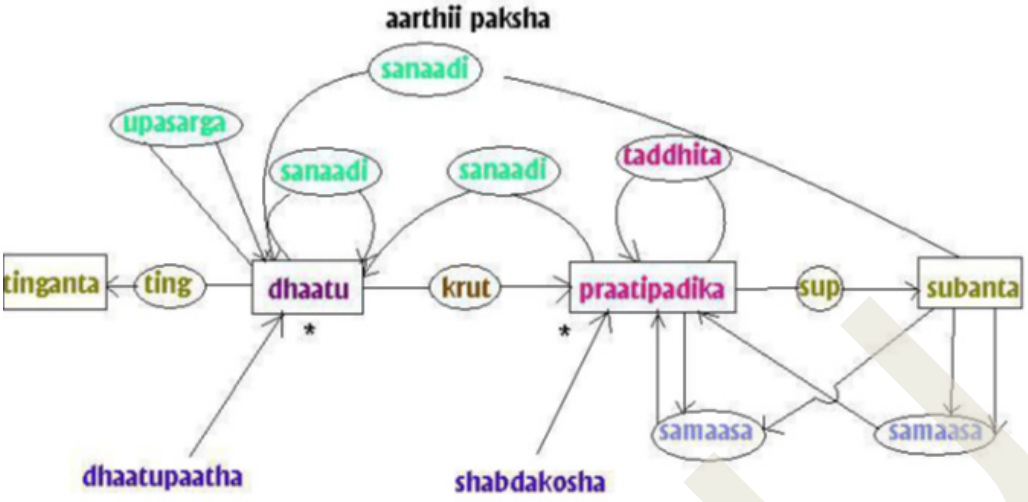
Panini's grammar saw the culmination of different thoughts into his monumental work ashtadhyayi. The modern age of information theory has provided a new improve to the studies of ashtadhyayi from the perspective of information coding. Apart from the ashtadhyayi and the grammatical tradition, the rich knowledge base in Sanskrit has been a source of attraction for both Indian as well as western scholars. Sanskrit was at one time "Lingua Franca" of the world of intellectuals, in addition to being a spoken language. As such, we find Sanskrit rich with many scholarly texts in different disciplines of studies – ranging from Astronomy, Ayurveda to different schools of Philosophy. Computational Linguistics can play a major role in developing appropriate tools for Sanskrit, so that this rich knowledge can become available to the interested scholars easily. Thus both Sanskrit and Computational Linguistics have a lot to offer to each other. Akshar Bharati group has been engaged in both the tasks viz. The task of developing computational tools for Sanskrit as well as the task of using Indian Grammatical thought for the analysis of other Indian Languages.

- Computational Linguistics can play a major role in developing appropriate tools for Sanskrit

4.3.8 Computational Tools for Sanskrit

- Computational tools for Sanskrit and applying Indian grammatical thought to other Indian languages

It is believed that compared to the task of applying Paninian Grammar Formalism to other languages, the task of developing computational tools for Sanskrit is much easier in view of existence of ashtadhyayi. It is really difficult that in spite of all available resources, still one finds it difficult to various computational tools for analysis of Sanskrit. One of the reasons is that the whole literature is still inaccessible to the computer scientists and the Sanskrit scholars



rarely turn towards computer science.

The complexity of word formation in Sanskrit may be illustrated.

4.3.9 Word Formation in Sanskrit

Thus both the '*pratipadika*'s as well as *'dhatu*'s provide the starting point. The first level of conjugation involves only two *pratyaya*s – viz. *sup* and *tin.*

Thus we have

pratipadika + *sup* - > *subanta* e.g. *ramena*

dhatu + *ti ˙n* - > *tinanta* e.g. *gacchati*

- Word formation in Sanskrit is complex, involving multiple levels of suffixation and compound formation

There are few कृदन्त suffixes, which produce 'अव्यय's.

e.g. *ktv¯a*, *tumun*, etc. as in

gam + *ktva* - > ; गत्व

gam + *tumun* - > ; गन्तुम्

Some of the kridanta suffixes produce new pratipadikas, and thus they take additionally one more suffix viz. sup, to produce a subanta, as in

गम् + ´sat˙r -> गच्छत् at. This further takes optionally a feminine suffix which is then followed by a सुप्। So one may have a form such as 'gacchati' which may be analysed as

गम् + ´sat˙r + सुप्

This results in the second level of word formation requiring two suffixes viz. कृत् and सुप् ।

Other paths that produce new pratipadikas or dhatu's are

प्रादिपतिक + सन्धि suffix

ex: putra + kyac -> पुत्रीयति

putra + k¯amyac -> पुत्रकामयति

कृष्ण + kvip -> कृष्णाति

धातु + सन्धि suffix

ex: *pipatas.ti* / *bobhuyate* / *gopayati*, etc.

upasarga + *dh¯atu* ->

ex. *pra* + *h˙r* / *a* + *h˙r* / etc.

The तद्धित suffixes generate new प्रातिपदिक s, as in दशरथ to दाशरथि।

New pratipadikas may also result from compound formation. There are 6 ways of compound formation, viz:

सुप् + सुप्

सुप् + तिङ्

सुप् + प्रातिपदिक

सुप्अ धातु

तिङ्अ सुप्

तिङ् अ तिङ्

Though there are 6 possibilities, only some of them are very productive, and others are very rare. It was found that around 20-25% of the words in Sanskrit text are compounds. The complexity is further aggravated by the

- The complexity is further aggravated by the Extensive sandhi formation in Sanskrit

Extensive sandhi formation in Sanskrit.The mandatory sandhi in the formation of compounds makes it a kind of deadlock situation

Thus there is a kind of deadlock situation. However, practically one can break this deadlock by developing a morphological analyser that handles first level suffix, viz. ti ˙n and sup. It is found that almost 50 to 60% of the words are analysed at this layer. A separate sandhi splitter which takes inputs from this morphological analyser can then be developed independently which can then handle the samasas also.

Computational linguistics has transformed from a niche research area into a cornerstone of modern technology. Its applications shape

- The complexity is further aggravated by the Extensive sandhi formation in Sanskrit

many aspects of our digital lives, from translation and voice assistants to search engines and social media analysis. By combining linguistic theory with computational methods, this field offers powerful ways to unlock the potential of human language for machines. Although challenges remain, ongoing research and technological progress promise to make machines better conversational partners and language users in the future. Computational linguistics explores how human language might be automatically processed and interpreted. Human language is processed by computers in every sector of contemporary society. Smartphones are required to register the meaning of language inputs, machine translation helps us to communicate, and information from large data sets is extracted and summarised.

Computational linguistics concerns the development and analysis of the methods which facilitate these applications and others like them. Analysis might therefore focus on anything from fundamental linguistic issues such as modelling the meaning of the word and recognising the grammatical structure of sentences, to complex applications such as machine translation or the assessment of statements for factual accuracy. Computational linguistics therefore makes an important contribution to the further development of artificial intelligence and serves as a driver of innovation in this field.

Summarised Overview

Early roots trace back to Turing and Chomsky. Shift from rule-based to statistical methods. Parsing reveals grammatical structure of language.Semantics deals with complex language meanings. Word embeddings show word relationships effectively. Neural networks improve language prediction accuracy. Applications include translation, chatbots, and sentiment analysis. Ethics and fairness key in language models. The Indian grammatical tradition has three schools of shabdabodha: vyakarana, nyaya, and mīmansa. Pāṇini's Aṣṭādhyāyī is a monumental work that culminates different thoughts into a systematic approach to language analysis. Computational linguistics can play a major role in developing tools for Sanskrit. Computational linguistics can make this knowledge available to interested scholars. The Akshar Bharati group has been engaged in developing computational tools for Sanskrit and applying Indian grammatical thought to other Indian languages. Word formation in Sanskrit is complex, involving multiple levels of suffixation and compound formation. The complexity of word formation in Sanskrit can be illustrated through the use of pratipadika, dhatu, sup, and tin suffixes.

Assignment

1. Trace the historical evolution of computational linguistics from the 1950s to the present.
2. Discuss the limitations of rule-based approaches and the transition to statistical models.
3. Explain how neural networks and word embeddings revolutionized language processing.
4. Explore the major challenges computational linguistics faces today, especially regarding ethics.
5. Evaluate the role of computational linguistics in building multilingual and multimodal AI systems.
6. What is the significance of Pâṇini's Aṣṭādhyāyānī in the context of computational linguistics?
7. What is the complexity of word formation in Sanskrit?
8. What is the role of the Akshar Bharati group in developing computational tools for Sanskrit?
9. What are the challenges in developing computational tools for Sanskrit?
10. What is the significance of compound formation in Sanskrit?
11. What are the potential benefits of applying computational linguistics to Sanskrit?

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3. Allen, James. *Natural Language Understanding*. 2nd ed., Benjamin/Cummings, 1995.
4. Bird, Steven, Ewan Klein, and Edward Loper. *Natural Language Processing with Python*. O'Reilly Media, 2009.
5. Bender, Emily M. *Linguistic Fundamentals for Natural Language Processing: 100 Essentials from Morphology and Syntax*. Morgan & Claypool, 2013.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

Unit : 4 Sociolinguistics

Learning Outcomes

Upon completion of the unit, the learner will be able to:

- ❖ understand the relationship between language and society
- ❖ identify different types of language variation across social groups
- ❖ analyse how language constructs and reflects social identity
- ❖ evaluate the role of language policy and planning in society

Background

Language is not merely a tool for communication- it is a mirror of society, a marker of identity, and a vessel of power. Every word we speak, every accent we carry, every shift in tone or vocabulary reveals more than just meaning; it unveils who we are, where we come from, and how we relate to one another. In the grand architecture of linguistics, where the walls are built from syntax, semantics, and phonetics, sociolinguistics opens the windows- allowing us to see not just how language is formed, but how it lives. It dares to ask questions traditional linguistics often overlooks: Why do people speak differently depending on whom they're talking to? Why is one accent considered "proper" and another "uneducated"? Why do languages disappear? Why do others persist against all odds? Sociolinguistics, at its core, is the study of language in its social habitat. It observes how language breathes differently in a market in Lagos, a classroom in Tokyo, or a courtroom in New York. It sees variation not as imperfection, but as an expression of culture, community, and change. It is a field where dialects are not dismissed as deviations, but honoured as reflections of history, geography, class, ethnicity, and identity.

Emerging forcefully in the 1960s and 70s, sociolinguistics challenged the idea that language could be studied in isolation. Pioneers like William Labov reminded the world that if you want to understand language, you must listen not just to how it is spoken, but who is speaking, to whom, in what context, and for what purpose. Language, after all, is never neutral. It encodes power, prestige, exclusion, and resistance. This chapter delves into the vibrant terrain of sociolinguistics, where language meets society. It explores how linguistic variation arises from region, class, gender, ethnicity, and

age. It examines how language constructs and reflects identity, how bilingual and multilingual communities navigate complex linguistic landscapes, and how attitudes toward language shape policy, education, and inequality.

In a world that is increasingly connected yet profoundly divided, where languages collide, evolve, and sometimes vanish, sociolinguistics offers both explanation and insight. It allows us to understand not only the diversity of human speech but the social forces that shape it. And perhaps more importantly, it reminds us that every voice matters, not just in what it says, but in what it reveals about the human experience. Sociolinguistics in Sanskrit examines the relationship between language, society, and culture. This field of study provides insights into how Sanskrit was used in different social contexts, how it varied across regions and communities, and how it reflected the social status and cultural identity of its speakers. In ancient India, Sanskrit was the language of the influential, used by the Brahmin caste and other high-caste groups. It was the language of education, literature, and government, and was considered a marker of social status and cultural sophistication.

Keywords

Language variation, Social identity, Bilingualism, Language attitudes, Sociolinguistics, Sanskritization, Diglossia Vernacular languages, Dialects, Cultural practices

Discussion

Sociolinguistics is a branch of linguistics concerned with studying the relationship between language and society. While traditional linguistics often focuses on the formal structure of language, such as syntax or phonology, sociolinguistics explores how social factors influence the way language is used, varied, acquired, and changed. It investigates how issues like social class, ethnicity, gender, age, and region affect language choice and patterns of communication within speech communities.

The field gained prominence in the 1960s and 1970s as scholars recognised that language cannot be fully understood without considering its social context. Sociolinguistics provides key insights into social identity, power relations, culture, and social interaction as embodied in language. It links linguistic variation and change to social structures and behaviours, making it essential for understanding language as a living, social phenomenon.

4.4.1 Language Variation

A central concern of sociolinguistics is the study of language variation, systematic differences in pronunciation, vocabulary, grammar, and usage found among different groups or in different contexts. Language is not uniform; rather, it varies across geographical regions, social classes, ethnic groups, and other social categories.

One important type of variation is *regional dialect*, where speakers from different geographic areas use distinct pronunciations or vocabulary. For example, British English includes regional dialects such as Cockney in London or Geordie in Newcastle, each with unique features. Dialectologists map these differences and investigate how isolation, migration, and geography contribute to language diversity.

Social class variation is also crucial. Speakers from different socioeconomic backgrounds often use distinct linguistic features. William Labov's pioneering studies in the 1960s showed that pronunciation varies by social class in cities like New York, where lower and upper working-class speakers pronounced the 'r' in words differently. This variation signals identity and social solidarity.

Variation based on ethnicity, gender, and age also shapes language. Different ethnic groups may maintain particular speech patterns as a marker of identity. Gender differences in speech reflect social roles, expectations, or communicative styles, such as a greater tendency among women to use standard or polite forms. Language changes over an individual's lifetime, meaning younger and older speakers may use the language differently.

Importantly, sociolinguistics views variation as normal and rule-governed, not as errors or deficiencies. Variation reflects the flexibility and adaptability of language to social needs and environments.

4.4.2 Language and Identity

Language functions as a powerful marker of social identity. People use language to express who they are, their group affiliations, and their cultural backgrounds. Through language, individuals signal membership in social groups and establish or negotiate their identities.

For example, choice of dialect, accent, or particular words can reveal a speaker's regional origin or social class. Using specific slang or jargon may align an individual with a subculture or profession. Code-switching, the practice of alternating between two or more languages or dialects within conversation often reflects a speaker's shifting identity contexts or social roles.

Sociolinguists study how language practices contribute to constructing ethnic, national, or gender identities. For instance, the use of African American Vernacular English in the United States has social and cultural significance beyond linguistic form, reflecting history, culture, and community solidarity.

Language also shapes and reflects power relations. Using standard language varieties often signals authority, education, or prestige, while non-standard varieties may be unfairly stigmatized or marginalised, leading to social inequalities.

4.4.3 Bilingualism and Multilingualism

Sociolinguistics explores communities where more than one language or dialect is used, focusing on bilingualism and multilingualism. These situations are increasingly common worldwide due to migration, colonisation, and globalisation.

Bilingualism occurs when individuals or communities regularly use two languages. Sociolinguists study different types of bilingualism, ranging from balanced bilingualism, where speakers have equal proficiency in both languages, to dominant bilingualism, where one language is more proficient or used.

Multilingual societies may exhibit *diglossia*, a situation where two varieties of a language or two different languages coexist with distinct functional roles. For example, in Arabic-speaking countries, Modern Standard Arabic is used for formal writing and speeches, while particular regional dialects are spoken in everyday conversation.

Sociolinguistics investigates how bilinguals manage multiple language systems, including code-switching, language mixing, and language choice depending on context. It also examines the social attitudes towards different languages, language maintenance, and language shift, where communities gradually lose one language in favour of another, often due to social or political pressures.

4.4.4 Language Attitudes and Language Planning

Attitudes towards languages and dialects influence social behaviour and language use. Sociolinguists explore how speakers value or stigmatize particular language varieties, which can affect decisions on language learning, use, and transmission.

Certain accents or dialects may be associated with positive attributes such as intelligence or friendliness, while others may attract negative stereotypes. These attitudes impact social inclusion and exclusion, sometimes reinforcing class or ethnic divisions.

Language planning refers to deliberate efforts by governments or institutions to influence language use in society. Planning can involve developing official language policies, standardising language forms, promoting minority languages, or deciding the language of education and administration.

Issues of language rights, preservation of endangered languages, and the impact of colonial history on language policies are major concerns. Sociolinguistics provides the tools to analyse these processes and advocate for equitable language practices.

4.4.5 Methodologies in Sociolinguistics

Sociolinguistics employs a variety of research methods to study language in its social context. Fieldwork and data collection are essential components.

Researchers often use interviews, recordings of natural conversations, and surveys to gather data on language use and attitudes. Participant observation allows linguists to witness how language operates in community life.

Quantitative methods, such as variationist sociolinguistics pioneered by William Labov, use statistical analyses to identify patterns of linguistic variation and correlate them with social factors. Qualitative approaches explore the meanings and interpretations that speakers attach to language choice.

Combining both methods offers a fuller understanding of the dynamic relationship between language and society.

4.4.6 Sociolinguistics and Society

The insights of sociolinguistics have practical implications beyond academia. Understanding language variation helps educators develop more effective teaching strategies that respect the linguistic backgrounds of students.

Social policy and communication benefit from recognising the diversity of language use, helping to reduce discrimination and bridge social divides.

Sociolinguistics also plays a critical role in preserving endangered languages and promoting linguistic rights, especially in contexts where minority languages are threatened by dominant ones.

Sociolinguistics in Sanskrit explores how social factors influenced the language and its usage throughout its history. It examines the relationship between Sanskrit and other languages, its role in different social contexts, and how social dynamics shaped its evolution. This

field investigates Sanskrit's role as a language of high prestige, its coexistence and competition with other languages, and its connection to social, political, and religious factors.

Sanskrit was spoken and written across different regions of India, with regional variations emerging over time. These variations were influenced by local languages, dialects, and cultural practices.

4.4.7 Sanskrit as a language of status

Sanskrit has historically been a language of high social status, associated with religion, scholarship, and literature.

1. Diglossia and language contact:

Sanskrit often existed alongside other languages (like Prakrits and regional vernaculars) in a diglossic relationship, where Sanskrit was used for formal and literary purposes while other languages served as vernaculars. Diglossia is a fascinating linguistic phenomenon where two distinct varieties of a language coexist within a single language community. This concept was first introduced by Charles A. Ferguson in 1959. In diglossic situations, one variety is typically considered "high" (or formal) and the other "low" (or informal). For example-

- Sanskrit (High) used in formal and literary contexts, and vernacular languages like Hindi or Tamil (Low) used in informal contexts, in India.
- Classical Arabic (High) and colloquial Arabic (Low) in Arab countries.
- Formal English (High) and colloquial English (Low) in some communities.

- High (formal) and Low (informal) varieties coexist

2. Social factors influencing language use:

Sociolinguistics in Sanskrit examines how factors like caste, class, region, and political power influenced the choice of language and linguistic variation. This field of study helps us understand how Sanskrit was used in different social contexts and how it evolved over time.

In ancient India, Sanskrit was the language of the elite, used by the Brahmin caste and other high-caste groups. It was the language of education, literature, and government, and was considered a marker of social status and cultural sophistication.

Sanskrit has significantly influenced the vocabulary and grammar of many languages in South and Southeast Asia, a process known as "Sanskritization". This process involves the adoption of Sanskrit

- Sanskritization involves the adoption of Sanskrit elements into other languages

words, phrases, and grammatical structures into other languages, often to convey prestige or cultural sophistication. For example:

Hindi and other Indo-Aryan languages have borrowed extensively from Sanskrit.

2. The vocabulary of many South Asian languages, including Bengali, Telugu, and Tamil, has been shaped by Sanskrit.

3. Literary styles and registers in Sanskrit:

- It also highlights the difficulty and diversity of the Sanskrit language

Sociolinguistics also investigates how different literary genres (like epic poetry, drama, and religious texts) employed distinct styles and registers of Sanskrit. Sanskrit played a significant role in shaping Indian culture and identity. It was the language of the Hindu scriptures, the Vedas, and was considered a sacred language. The study of literary styles and registers in Sanskrit reveals how language was used to convey social status, cultural identity, and religious authority. In this context specified that the language used in these genres varied in terms of vocabulary, grammar. Examples are-

a) Epic Poetry: Used a formal, elevated style with complex meter and vocabulary, as seen in the Mahabharata and Ramayana.

b) Drama: Employed a more conversational style with regional dialects and colloquialisms, as seen in the plays of Kalidasa.

c) Religious Texts: Used a formal, ritualistic style with precise terminology and syntax, as seen in the Vedas and Upanishads.

4.4.8 Historical context

Sanskrit has a rich history spanning over 3,000 years, with its earliest texts dating back to the Vedic period (1500 BCE - 500 BCE). Over time, Sanskrit evolved and became the language of literature, philosophy, and science in ancient India.

- Sanskrit sociolinguistics considers the historical context Vedic period, classical period

The study of Sanskrit sociolinguistics considers the historical context, including the Vedic period, the classical period, and the periods of foreign rule, to understand the evolution of language use.

In essence, sociolinguistics in Sanskrit aims to understand the complex interplay between the language itself and the society in which it was used, revealing how social forces shaped its development and role over time.

Sanskrit, an ancient language of India, has significantly influenced the sociolinguistics of many other languages, both within and outside the Indian subcontinent. Its influence is evident in the vocabulary, grammar, and cultural nuances of various languages, including modern Indian languages like Hindi, Bengali, and Tamil, as well as

European languages like Greek and Latin. This influence is due to the historical and cultural prominence of Sanskrit, its role as a language of religion and scholarship, and its connection to the Indo-European language family.

Influence on Modern Indian Languages:

Vocabulary:

Many words in modern Indian languages, particularly those related to formal, religious, and scholarly contexts, have their roots in Sanskrit.

Grammar:

Sanskrit's grammatical structure has also influenced the grammar of several Indian languages, though the extent of this influence varies.

Sanskritisation:

This is the process where languages adopt elements of Sanskrit, such as vocabulary and grammar, often associated with social mobility or the adoption of upper-caste customs.

Examples:

Hindi, Bengali, Marathi, Gujarati, and Punjabi all show strong Sanskrit influence, especially in formal and literary contexts.

4.4.9 nfluence on European Languages

Sanskrit is a member of the Indo-European language family, which also includes Greek, Latin, and many European languages.

Linguistic Similarities:

This shared ancestry is reflected in similarities in vocabulary, grammar, and phonetics between Sanskrit and these European languages.

Examples:

Words like "mother" (English) and "matar" (Sanskrit), or "daughter" (English) and "duhitar" (Sanskrit) demonstrate the connection.

4.4.10 Sociolinguistic Aspects

Language and Identity:

Sanskrit's influence is intertwined with the cultural and historical identity of India, and its study can offer insights into India's intellectual, theological, and cultural legacy.

Language Contact:

The interaction between Sanskrit and other languages has shaped the linguistic landscape of South Asia, leading to borrowing, code-switching, and other forms of language contact.

Social Stratification:

In some cases, the use of Sanskrit-derived words or phrases can be associated with social status or formality.

In conclusion, Sanskrit's relationship with other languages is multifaceted, involving historical, cultural, and linguistic connections. Its influence is particularly significant in the development of modern Indian languages and also extends to European languages through its membership in the Indo-European family.

Sociolinguistics reveals the intricate ties between language and every aspect of social life. Through studying language variation, identity construction, bilingualism, attitudes, and policy, sociolinguists uncover how language expresses culture, power, and community. This knowledge is essential for understanding the social dimensions of language now and in the future.

Summarised Overview

Language reflects society's structure and power dynamics. Dialects differ by class, region, and culture. Language signals personal and group social identity. Code-switching reflects identity and social context. Multilingualism arises through contact and globalization. Language attitudes affect perception and social status. Language planning influences policy and education systems. Research blends quantitative and qualitative methodologies.Sanskritization is a fascinating concept in Indian sociology that describes how lowers castes or tribes adopt the customs, rituals, and lifestyle of upper castes, especially Brahmins, to improve their social status. Diglossia is a fascinating linguistic phenomenon where two distinct varieties of a language coexist within a single language community. This concept was first introduced by Charles A. Ferguson in 1959. In diglossic situations, one variety is typically considered "high" (or formal) and the other "low" (or informal). Sociolinguistics in Sanskrit examines how factors like caste, class, region, and political power influenced the choice of language and linguistic variation. This field of study helps us understand how Sanskrit was used in different social contexts and how it evolved over time.

Assignment

1. Discuss the role of language variation in shaping social identity.
2. Analyse how gender and ethnicity influence language use in a multilingual society.
3. Evaluate the importance of language attitudes in education and social mobility.
4. Examine the methodologies used in sociolinguistic research and their effectiveness.
5. Discuss the implications of language planning on minority languages and linguistic rights.
6. What is sociolinguistics in Sanskrit?
7. How did Sanskrit influence the languages of South and Southeast Asia?
8. What is the process of Sanskritization?
9. How did Sanskritization shape the vocabulary and grammar of other languages?
10. What is the significance of literary styles and registers in Sanskrit?
11. Give examples of different literary styles in Sanskrit?
12. How did the use of different registers reflect social status and cultural identity?

Suggested Reading

1. An Introduction to Sanskrit Linguistics- Comparative and Historical, Sriman Narayana Murthi. D.K. Publishers, Delhi, 1984.
2. Computational Linguistics an Introduction, Ralph Grishman, CambridgeUniversity Press, 1999.
3. A Course in General Linguistics, Ferdinand de Saussure, (trans.) Warde Baskin, London, 1964.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

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Model Question Paper
(SET – A)
SREENARAYANAGURU OPEN UNIVERSITY

Reg.No..... QP CODE.....

Name.....

THIRD SEMESTER M.A. SANSKRIT LANGUAGE AND LITERATURE EXAMINATIONS
DISCIPLINE CORE

M23SN12DC LINGUISTICS
(CBCS- PG)
2024 Admission Onwards

Time: 3 Hours **Max Marks: 70**

SECTION- A

I. **Answer any five of the following questions in one or two sentences each. Each question carries 2 marks (5 x 2=10)**

1. What are the main branches of the Indo-European language family?
2. What are some key characteristics of Prâkṛt languages?
3. What is phonology, and what does it deal with?
4. What role does accent play in Varner's Law?
5. What is the difference between primary and secondary suffixes?
6. What is an Epithelised Compound (बहुव्रीहि)?
7. What is the difference between langue and parole in Sanskrit?
8. What is sociolinguistics in Sanskrit?

SECTION –B

II. **Answer any six of the following questions in a half a page each. Each question carries 5 marks (6 x 5=30)**

1. What are some key characteristics of Indo-European languages?
2. What is the significance of Pali in the development of Prâkṛt languages?

3. Discuss the different types of consonants, including stops, spirants, and nasals.
4. Describe Fortunate's Law and its role in explaining Sanskrit cerebrals.
5. How does analogy influence the formation of words, inflexion, syntax, and meaning in language?
6. What are the classifications of Suffixes? Explain.
7. How does a अव्ययीभाव compound function?
8. What is the difference between the Dative and Ablative Cases?
9. What is Cognitive Linguistics? Give an example of a conceptual metaphor in Sanskrit?
10. How did Sanskritization shape the vocabulary and grammar of other languages?

SECTION –C

III. **Answer any two of the following questions in two pages each. Each questions carries 15 marks** **(2x15=30)**

19. What is the relationship between language and thought, according to Indian linguistic traditions?
20. Explain the Law of Palatalisation and its significance in the development of Sanskrit?
21. Explain the six types of compounds in Paninian classification?
22. What is the significance of Pāṇini's Aṣṭādhyāyī in the context of computational linguistics?

Model Question Paper
(SET – B)
SREENARAYANAGURU OPEN UNIVERSITY

Reg.No..... QP CODE.....

Name.....

THIRD SEMESTER M.A. SANSKRIT LANGUAGE AND LITERATURE EXAMINATIONS
DISCIPLINE CORE

M23SN12DC LINGUISTICS
(CBCS- PG)
2024 Admission Onwards

Time: 3 Hours **Max Marks: 70**

SECTION- A

I. **Answer any five of the following questions in one or two sentences each. Each question carries 2 marks. (5 x 2=10)**

1. What is the difference between voiced and unvoiced sounds?
2. Which languages belong to the centum group, and the satem group?
3. How did Indian grammarians like Yaska contribute to the field of linguistics?
4. What is the role of analogy in phonetic change?
5. What are the classifications of Suffixes?
6. What is the key feature of Co-ordinating Compounds (द्वन्द्व)?
7. What is Transformational Generative Grammar (TGG)?
8. What is the complexity of word formation in Sanskrit?

SECTION –B

II. **Answer any six of the following questions in a half a page each. Each question carries 5 marks. (6 x 5=30)**

9. How does the study of linguistics help us understand the structure, development, and nature of language?
10. What is the relationship between Prâkṛt languages and modern Indian vernaculars?
11. Describe the role of the larynx and vocal cords in speech production.
12. How does phonetic change differ from semantic change?
13. Provide examples of the sound changes described by Grimm's Law.

14. What are the reasons for the formation of compound or complex suffixes?

15. How does a (बहुव्रीहि) *(Bahuvrihi*) compound function in a sentence?

16. How does Pronominal Declension differ from Nominal Declension?

17. What is the significance of literary styles and registers in Sanskrit?

18. What are the potential benefits of applying computational linguistics to Sanskrit?

SECTION –C

III. **Answer any two of the following questions in two pages each. Each questions carries 15 marks.** **(2x15=30)**

19. Analyze the characteristics of Indo-European languages and their evolution over time.

20. What is Grimm's Law, and how does it relate to sound changes in Germanic languages?

21. Explain the cases in Sanskrit languages?

22. Trace the historical evolution of computational linguistics from the 1950s to the present.

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