

Block 3

Concept and Development of Technical Terminology

Unit 7

Word : Concept and Dimensions

Unit 8

Technical Terminology : Nature, Types and Characteristics

UNIT 9

Development and standardization of Technical Terminology

Introduction to Block 3

This is the third block of ‘Lexicography, Technical Terminology and Translation’ course of MA in Translation Studies (MATS) programme. This block deals with the concept of technical terminologies. This concept is largely related to dictionary and lexicography, because it is also related to words and dimensions like semantic, equivalent synonyms etc. contained in them. Although dictionaries, lexicography and technical terminology are essentially the same in essence, technical terminology is also a distinct concept. Its nature, types, characteristics, development process, schools/ideologies/approaches, theories, strategies etc. require separate discussion. That’s why in this course, along with making the concept of lexicography etc. the subject-matter of study, various dimensions related to technical terminological are being discussed in two separate blocks.

Block 3 deals with the ‘**Concept and Development of Terminology**’. There are three units in this block. Technical Terminology basically consists of words only. Therefore, before discussing about its concept and various dimensions associated with it, it is necessary to know what is meant by the ‘word’. Therefore, in Unit 7 of this Block, the topic ‘**Words: Concept and Dimensions**’ has been introduced. In this, the meaning and importance of the ‘word’ has been highlighted. Along with this, the source, types and making process of words have been discussed. It has also been explained in the unit what is meant by the word powers. And what is their role in translation? Discussion on word repository and translation, and the importance of selection of words in translation has been underlined.

Unit 8 is titled ‘**Technical Terminology : Nature, Types and Characteristics**’. Along with giving the meaning and definition of technical terminology, its types have been explained. After clarifying the similarities and dissimilarities between general and technical terms, the characteristics of technical terms have also been discussed in detail in this unit.

Unit 9 deals with ‘**Development and Standardization of Technical Terminology**’. Through this unit, the natural and planned development process of technical terminology has been explained and the tradition of making technical terminologies has been introduced. This tradition of terminology building has been seen as the efforts of dictionary making before and after independence. In addition, the efforts of standardization of technical terminology and challenges have also been discussed in this unit.

UNIT 7 WORD : CONCEPT AND DIMENSIONS

Structure

- 7.0 Objectives
- 7.1 Introduction
- 7.2 What is Word?
- 7.3 Importance of Word
- 7.4 Element of Language
 - 7.4.1 Meaning
 - 7.4.2 Relationship
- 7.5 Sources of Words
 - 7.5.1 Tatsam Words
 - 7.5.2 Tadbhava Words
 - 7.5.3 Indigenous Words
 - 7.5.4 Alien (Foreign) Words
 - 7.5.5 Hybrid Words
- 7.6 Types of Words
 - 7.6.1 Prime Words
 - 7.6.2 Transparent Words
 - 7.6.3 *Yogrud* (Combined-Routine) Words
- 7.7 Process of Word-Making
 - 7.7.1 In Consonance with Prefix-Suffix
 - 7.7.2 In Consonance with Conjunction and Compound
- 7.8 Meaning of Words-Powers and their Roles in Translation
 - 7.8.1 Words-Powers : Meaning and Types
 - 7.8.2 Role of Word-Powers in Translation
- 7.9 Words Repository and Translation
- 7.10 Selection of Words in Translation and its Importance
- 7.11 Let Us Sum Up
- 7.12 Exercises
- 7.13 Suggested Readings

7.0 Objectives

After studying this unit, you will be able to :

- tell that what is 'word';
- understand the importance of word in Language and Society;
- mention the sources and types of words;
- acquainted with process of making of words;
- know what is word-powers and their role in translation; and
- familiar with the importance of word repository in translation.

7.1 Introduction

In the first two blocks of this course titled ‘Lexicography, Technical Terminology and Translation’ you have come across the concepts of dictionary and lexicography as well as aspects like Computer dictionary and Translation. By studying about the concept of dictionary and lexicology, you must have understood its meaning and nature as well as the types of dictionaries and the method of dictionary use.

After this, we will now learn about the nature, types and characteristics of technical terminology as well as development under this third Block titled ‘Concept and Development of Technical Terminology’. After this, we will study technical terminology and translation. But when we consider the nature, types etc. aspects of the technical term, first of all the question that arises in front of us is that what is ‘Word’? Therefore, the present unit is being focused on the concept of the word and its dimensions.

Although the smallest unit of language is ‘sound’, but meaningfully and independently the smallest unit of language is ‘word’. In the context of translation-teaching, in fact, the students are first familiar with the sentence, and taking the meaning of the sentence, move towards the synonym of the target language through the words and make a new sentence structure through the words of the target language. In this sentence structure done by the translator, there is uniformity in terms of meaning and language. Through the meaning and relation of the word, you will also get the information that one word or different words are used for the same meaning according to the context and circumstances. This aspect will also be discussed in this unit. Along with this, an introduction about the morphological changeability and extension of meaning of words will also be presented in this unit on the basis of the source of words and their composition etc.

‘Word’ is that important element of language with multi-dimensional images in which word-powers play an important role. Information about these word-powers is also being given in this unit. By getting an introduction to the power of words, you will be able to mention its role in translation. Along with this, you will also be able to elaborate on the role of technical terminology in translation. Let us first of all know what is meant by ‘word’ (shabd).

7.2 What is Word?

After studying various texts and dictionaries, the definition of ‘word’ in any language can be given as – ‘The smallest, meaningful and independent unit of any language is called a word.’ By paying attention to this definition, we can find that:

- Words are the smallest meaningful unit of language.
- Words are independent.
- Each word has a definite meaning.

The point to be noted here is that ‘word’ is an independent unit of language. Sentences are made up of words. But if we keep the words at one place, then a meaningful sentence cannot be made. In order to make the sentence meaningful, a little change has to be done on the basis of grammatical arrangement in the words. This change in sentence is taking place due to the

effect of prepositions. In grammar, these are called 'inflected words'. In any language, the 'inflected words' change on the basis of its grammatical rules. In this way it can be said that 'the forms used in the sentence are called 'word-form' or 'inflected word'.

The thing to note here is that the power of the word is outside the sentence. When used in a sentence, the word is called 'inflected word'. But a word does not become a 'inflected word' until a word-forming suffix is attached to it.

Words are formed by combining letters. For example, घ + ओ + इ + आ = घोड़ा (horse), भ + आ + ल + ओ = भालू (bear). But you also have to keep in mind that no letter or sound group can be called a word. For example, 'मकल' is a sound group made up of the letters 'म+क+ल' but it has no meaning. That's why 'मकल' cannot be called a word because it has no definite meaning. If the order of these alphabets is changed i.e. 'क+म+ल=कमल (Lotus)' then it will be called a word because it is expressing a certain meaning i.e. one type of flower. Thus it can be said that redundant phonemes cannot be called words and each letter has a definite place in each word. That definite place makes it a meaningful entity. In the absence of this sequence, word becomes a meaningless unit.

As already mentioned, when a word is bound by the rules of grammar and is used at a certain place in a sentence, it becomes an 'inflected word'. While using words in a sentence, the rules of grammar (i.e. gender, word, factor etc.) have to be taken care of. The form of these words also changes according to grammatical requirements. 'Form' or 'inflected word' is created by adding relation element (i.e. causative sign, suffix etc.) to the word to get the desired meaning.

7.3 Importance of Words

Man is a social animal. By living in the society, he conveys his feelings and thoughts to others. This exchange of ideas is called 'communication'. There are many means of this communication. Sometimes these means are symbolic, sometimes oral and sometimes written. We mean here only oral and written forms of communication.

Words have special importance in oral and written form of communication. The words themselves give expression to meaningful feelings and thoughts by intertwining them according to grammatical rules in the form of sentences. No language of the world can be imagined without words. After birth, the infant begins its language skills with a few nonsensical/useless sounds. However, these sounds are not meaningless for any mother as she understands the needs and requirements of the child very well. But from the linguistic point of view, these sounds can only be called meaningless. Over the time, when the child grows up, he starts reading words and then learns to make sentences and paragraphs from words and read them according to the chronological order. This learning or language-acquisition process of the child is spontaneous. He learns to use language by imitation. In this way, we see that in the pronunciation and writing of meaningful words in the language, man keeps on gaining efficiency from his birth.

On a linguistic basis, we build words from letters and proceed to sentence structure with the help of words and grammatical expressions. This proves that how important is the place of words in sentences and in the absence of words, language cannot be imagined. Although some words, being single, give a complete expression of emotion through their meaning, and some expressions and ideas require a long series of words. For example, take a word – ‘stay’. The meaning is fully understood by this single word. But, if the word ‘stagnation’ is used in its place, then we will not be able to know whether this pause is ‘of life’, ‘of progress’, ‘of stopping somewhere in the middle of the way’, ‘of stopping in language belongs to’ etc. In such a situation, if the full meaning is to be expressed, then we have to use more words and that too in a series of grammatical rules.

The order of words in a language is also very important. If this sequence of words is not in the grammatical structure or is not in its fixed place, then we will not be able to catch the intended meaning and can misunderstand the meaning. Apart from this, contexts and circumstances in language are also important. In fact, in sentences, we use appropriate words keeping in mind the context and circumstances. The selection of these correct synonyms of words and their beautiful use gives a suitable meaning-image and dignity to the language. Due to these precise selections of words, we can effectively communicate our feelings and thoughts through language. This makes it clear that there is special importance of accurate word-selection in the language. The same situation is in translation. This is called ‘selection of appropriate word’ there.

Millions types of words are used in language, but the selection and placement of words in linguistic usage is done on the basis of meaning of statement and grammatical rules. From this point of view, special attention is also taken to the context and social usage, because a slight mistake can lead to disaster. In linguistic behaviour, each person selects linguistic words or selects synonyms of words according to his/her level and occupation and expresses them by binding them in grammatical rules. This selection of words in mother tongue and colloquial language is spontaneous. But special care is needed in the selection of words in translation. For this, a wide knowledge of words and grammatical structure of the target language is expected of the translator. Thus we see how important words and word choice are in language and translation.

Words have great power - to unite as well as to break. The reach of the word is in every field of the world, in every subject. Without words there is no knowledge, no science. Without words there is no man, no society, no country. They are successful in every work. One who has maximum power of words can be a skilled orator, a skilled writer, a good leader or a skilled translator. In fact, the language used from the sentences made up of ‘words’ only becomes the identity of the person, just like the identity of a nation is its language.

Words have special importance in the society too. The basis of social thought and emotion-exchange rests on words only. Since language cannot exist without words, therefore society cannot be imagined without words.

7.4 Elements of Language

There are two elements of language - meaning element, and relation element. The meaning of every meaningful word is the same meaning element.

7.4.1 Meaning

Each meaningful word contains a specific meaning in itself. Every meaningful word has its own definite meaning. The same words are used for different meanings. Also, a variety of words are used for the same meaning. In fact, there is a special role of context and circumstances in the use of word i.e. there is diverse use of words suited to different situations of life, contexts and contexts. We use them only according to the context and circumstances. This uniqueness of words arises only because of its meaning. On this basis, it would not be entirely inappropriate to say that no word is synonymous with any other word. It is the contextual meaning of each word that gives it a specific practical identity. For this reason, even the same words have different meanings in different contexts.

7.4.2 Relationship

Relation element is said to be that which associates two or more words with each other or a term or form is created only by adding the relation element in a pair of words. There can be many grounds for this like, place of word, sound replacement, emphasis etc. Let us now consider them one by one.

Place of Word : The place of words sometimes works as a relation element. For example, in Hindi when we say 'Raj Sadan' it means 'the king's palace' and if we change the place of both these words (Raj Sadan) to 'Sadan Raja' then it will mean 'the king of houses' (i.e. a very good or big house). The position of words in a language has special significance. The place of the word is also important in translation. The translator has to pay special attention to this. Some other similar examples can also be seen 'Power House – House Power', 'Light House – House Light'. These examples were in relation to the location of words. In the context of place of word, the same situation occurs even when used in sentences. To clarify this, let us see the change of place of words by using them in a sentence. For example see the following sentence

- Ram killed Sohan.
- Sohan killed Ram.

It is clear that in the first sentence the relation between Ram and Sohan is different, but the meaning changes only by changing the place of the word.

Leaving the words as they are or adding zero relation : Sometimes leaving the words as they are by not applying any relation element is also indicative of the relation element. In English, the verb is left as it is in the first person singular (e.g., 'I go') and plural (e.g. 'We go.', 'You go' etc.) in the simple present tense. In English the plural of 'sheep' is 'sheep'.

Independent words : In many languages of the world, independent words also act as a relation element. All prepositions or grammatical category 'cases' of Hindi belong to this class and their function is to show the relation of two or more words in a sentence or phrase

or group of words. To, from, on and in etc. of English are words of this category. Sometimes two independent words are also used for relation element. For example, look at the sentence - 'If the college is closed, I will have to go to.' In this sentence, 'if' and 'than' are similar words which show the relation between 'college is being closed' and 'having to go'.

Sound Substitution: Relationship elements can also be revealed by sound substitution. Sound replacement can be seen at the level of vowels, consonants and also at the level of both. In this way three types of sound substitution can be made - (1) vowel substitution, (2) consonant substitution; and (3) Vowel-Consonant substitution.

From 'sing' to 'sang' and 'sung', 'tooth' to 'teeth'; and 'find' to 'found' etc. is 'Vowel substitution'. While word changes such as from 'send' to 'sent' or 'advice' to 'advise' are examples of 'Consonant substitution'. The third type i.e. 'Vowel-Consonant substitution' can be seen as examples of word-changes like 'be' to 'am' or 'is'; 'go' to 'went' etc.

Stress : Stress also acts as a relationship element. For example, while pronouncing the word 'conduct' in English, if the stress is on 'a', then this word will be noun and if it is told on the word 'd', it will go through the verb. Similarly, in the word 'present', stress on 'a' will make it a noun and 's' verb on being stressed.

Apart from these, prefix and suffix etc. also maintain the element of relation. We will study about it further.

Close Juncture : In addition to sound substitution and stress etc., it is also necessary to take care of the close juncture in the use of words in the language. Here the question must be arising in your mind that what is called 'Close Juncture'? In fact, the boundary signs at the end of the utterance are called 'Close Juncture'. If this sign is not there, then the meaning of the words itself changes.

7.5 Sources of Words

Any language of the world prospers and develops only when its vocabulary is rich and prosperous. Sometimes the words of his language wealth are his own creation and sometimes words are also imported due to the ambush of cultural, historical and social conditions. This process also happens spontaneously and for socio-scientific needs, they are included in the word- family of their language so that knowledge can be spread.

When we consider the source of words in Hindi language, first of all we find that since Hindi is developed from Sanskrit, there are many words which are derived from Sanskrit. Apart from this, there are some Sanskrit words which are converted into Hindi and are used. Along with this, there are many words in Hindi vocabularies which have come from other languages and which Hindi has adopted very easily. This receptivity of Hindi is quite liberal even from the point of view of translation. In this way, considering the source of Hindi words, we can

divide them into five categories. These are *Tatsam Shabd*, *Tadbhava Shabd*, *Deshaj Shabd* (Indigenous words), Alien (Foreign) words, and Hybrid words. Let us now learn a little about all these five types of words.

7.5.1 Tatsam Words

In Hindi language, most of the words originated from Sanskrit heredity. Similarly, the qualities of Sanskrit words are found in Hindi words. From this point of view, the words of Sanskrit are used in Hindi language without any change, they are called 'Tatsam words'. For example, Amrit, *Agni*, *Asha*, *Gyan* etc. Here we mention similar words for indication only.

7.5.2 Tadbhava Words

'Tadbhava' means those words which are to be created by (spoiler or change). There are many such words in Hindi language's word repository which are due to cultural-historical reasons and closeness to other languages etc. or for pronunciation convenience made from the words of Sanskrit language in a changed manner. In this way it can be said that those words of Sanskrit language which are used in Hindi in modified form are called 'Tadbhava words'.

7.5.8 Indigenous words

There are many words in Hindi language whose source is not known. The special thing is that the original form of such words is not found even in Sanskrit. These words have arisen out of necessity due to the influence of many dialects in Hindi. Such words are called 'Indigenous words'. It is known as 'native words' also. Indigenous words are such words which have developed due to various Indian languages, regional dialects and regional influence according to their nature of Hindi or have become prevalent by becoming circumstantial.

7.5.4 Alien (Foreign) words

India has been the centre of attraction for trade since ancient times. India had trade relations with many civilizations and countries of the world. Therefore, due to continuous commercial, social, cultural and historical contact and influence with foreign races, some of their languages (e.g., English, Arabic, Persian, Turkish, Portuguese, French, Chinese, Japanese etc.) started being used in Hindi language. We call such words alien or foreign words.

7.5.5 Hybrid Words

There are many words in Hindi which are made from a combination of two different languages. Such words are slowly being used in the society as per the need. For example, the word '*rickshaw-chaalak*' (rickshaw-puller) is a hybrid of the Hindi word 'chaalak' combined with the Japanese word 'Rickshaw'.

7.6 Types of Words

When we discuss the types of words, we can divide them on the basis of many types of grammatical categories, meaning, usage, origin etc. But here we will only discuss the type of words on the basis of derivation/composition/texture etc. of the word. A good translator is expected to have a good understanding of the grammatical rules of the source language and the target language.

On the basis of derivation/composition/etymology, three types of words are considered. These are - (a) Prime word, (b) Transparent word; and (c) Combined-Routine (i.e. 'Yogrud' in Hindi) words. Let us now consider them separately.

7.6.1 Prime Words

Prime words are those which are not made from the combination of any other words or which do not have any meaning when divided, but they become conventional or famous for a particular thing. It is also known as 'Routine Words' and 'Conventional Words' also. 'Fruit', 'table', 'chair', 'lion', 'horse', 'plant', 'tree', 'bed', 'newspaper', 'window' and 'key' etc. are the examples of prime words.

7.6.2 Transparent words

'Transparent words' are also known as 'Compound words'. They are formed by the combination of two syllables and can be divided into meaningful sections. These syllables can be two and more than two. In this way it can be said that the words formed by the combination of two or more syllables whose meaningful sections can be done are called 'compound words'. For example, 'bullockcart' (bullock+cart), 'tablecloth' (table+cloth) etc. Here we also want to tell you that compound words are not formed only by syllables, they can also be formed by prefix, suffix, conjunction or any other method e.g. 'Misbehaviour' (miss+ behaviour).

7.6.9 Yogrud (Combined-Routine) Words

Some Combined-Routine words are such that instead of revealing the general meaning, they reveal some other definite meaning like stereotyped words. In other words, the words which, despite being compound, leave their general meaning and become rigid for a particular meaning, They are called 'Yogrud words'. For example the Hindi word 'Chaturbhuj' (literal meaning in English 'quadrilateral) has a general meaning. - with four sides/arms, but this word is not used in the general sense but is used in the context of God 'Vishnu' in Indian cultural perspective.

7.7 Process of Word-Making

Root words play an important role in the formation of words. In other words, it can be said that Root words are the basis of word formation process. With these Root words, new words are created through prefixes, suffixes, compounds, conjunctions etc., words are expanded. This process of word formation sometimes happens spontaneously and sometimes it has been practiced in our society for a long time as per the need and gradually their forms have become stable in Hindi. Apart from this, due to the influence of new knowledge, we have composed new words in our language through prefixes, suffixes, joining, compound etc. These new words are very important from the point of view of translation.

The technical terminologies developed as per our educational and administrative needs are in fact the best examples of the 'planned process of word formation'. To give concrete shape to

this aspect of word formation, efforts were made to standardize technical terms and in this context the Commission for Scientific and Technical Terminology (CSTT) was established. This Commission started the development work of technical terminology in Hindi with the help of scholars of various subjects. This process of word making is continuously moving forward at a rapid pace and is adorning new words in the Hindi language with various expressions of meaning.

As it has been mentioned that new words are formed by prefixes, suffixes, joining, conjunctions, etc., therefore, it would be appropriate to consider them a little.

7.7.1 Word formation : In Consonance with Prefix-Suffix

The meaning of the word ‘prefix’ is to make a word with another new meaning by sitting near it. In fact, prefixes are syllables that are added at the beginning of words to form new words. Although these prefixes do not have any independent existence, but they bring change or uniqueness in the meaning of the word before which they are attached. In Hindi, prefixes of different languages like Sanskrit, Urdu-Persian, English etc. are used.

Suffix : The word ‘Suffix’ means with the words. But, in fact, suffixes that follow or are those syllables which, by joining at the end of a word, bring innovation or change or specialty in its meaning. New words are formed by adding suffixes to words. The number of such suffixes is very high in the Hindi language.

Thus we have seen that with the help of prefixes and suffixes, countless words are formed. But it is necessary to be as careful as possible while using it. For examples,

- Prefix-suffixes should be used keeping in mind the trend. The meaning in which the prefix or suffix has become conventional, should be used in the same meaning. Otherwise, the situation becomes ridiculous.
- In addition, the source of words also requires special attention. We can also say this in such a way that the source of which the word is, the prefix-suffix should also be of the same source. If we have to make a word by applying prefix or suffix to a similar word, then the effort should be that the prefix/suffix used should also be similar.

7.7.2 Word formation : In Consonance with Conjunction and Compound

Words are also formed with the help of conjunction and conjunction. Before considering this let us first know what is meant by conjunction and compound.

Conjunction (Sandhi) : When two adjacent letters of a word come together, the disorder that occurs in the word due to their combination is called ‘conjunction’ (Hindi word – ‘Sandhi’). It is also known as ;joining;. In grammar, the word ‘sandhi’ is used to join adjacent letters together. For example, the combination of the Hindi words ‘vidya’ + ‘alaya’ makes the word ‘vidyalaya’ i.e. ‘school’. It is clear that as a result of this type of mutation, a new word-form is formed from the *sandhi* words. There are three types of *sandhi* - (a) vowel sandhi (b) consonant sandhi; and (c) visarg sandhi.

When the mutation that arises from the combination of vowels in vowels, it is called 'Vowel Sandhi'. The special thing in these is that there is a treaty with the combination of two vowels and mutation arises in the word only by the combination of vowels. For example, Ravi + Indra = Ravindra', 'Surya + Udaya = Suryodaya'.

When a mutation occurs in a word due to the combination of vowels and consonants, it is called 'Consonant Sandhi'. This mutation can also be due to the combination of consonant and vowel, can also be due to combination of vowel and consonant and can also be caused by consonant with consonant. On the other hand, when the mutation that arises from the combination of vowels or consonants with visarga is called 'Visarga Sandhi'.

Compound (Samaas in Hindi) : 'Samaas means 'concise', the main purpose of 'Compound' is to reveal maximum meaning in the least number of words. In compounding, a new word is formed from the root of two or more words. We can also say this in such a way that the combination of two or more words having mutual relation is called 'Compound'. The one word that is formed after compounding is also called '*Samast Pad*' i.e. 'Compound Word' or '*Saamaasik Pad*' i.e. 'Composite Word'.

Let us remind you that in the process of forming a compound, the factors that tell the mutual relation of words: case, flections, prepositions disappear. When all the compound words are brought back to the previous state, this process is called '*Samaas Vighraha*'.

The purpose of giving brief information about Conjunction and Compound is to tell you that countless words are formed through these too. If we consider in the context of English-Hindi translation, we find that while translating the thoughts expressed in English into Hindi, generally only compound terminology is used.

7.8 Meaning of Words-Powers and their Roles in Translation

By now it must be clear to you what is the meaning and importance of the word. Similarly, you have also come to know about the sources, types and formation of words. We will now consider word powers and their role in translation. In this regard, first of all, let us know what is meant by word powers and how many types are there.

7.8.1 Word Powers : Meaning and Types

You have read in Section 7.4 of this Unit that word and meaning are complementary to each other. Words without meaning do not exist. A single word can have many meanings and images and many words can reveal the same meaning. The meanings of words keep changing according to contexts and contexts. For example, Hindi word 'gadhaa' (Donkey) is an animal but this word can also be used for a retarded and stupid person. To make it clear, we have gone to grass. To clarify this, we can take the example of the sentences 'Gadhaa ghaas char raha hi' (Donkey is grazing grass)' and 'Ramesh to niraa gadhaa hi' (literal translation is 'Ramesh is a pure donkey'). You must have noticed that in the first sentence 'gadhaa (donkey)' means 'animal', but in the second sentence the same word is being applied to a

person named 'Ramesh' and giving the sense that he is a fool. It means, in the first sentence the common popular meaning of 'donkey' has been given whereas in the second sentence the word 'donkey' has been given a different meaning by not taking the common-popular meaning. Thus it can be said that the meaning of the words is accepted by the complete sentence according to the context and context. The root cause of this semantic business of the word is called 'Shabd Shakti' (word power).

There are three types of word-powers in Hindi. These are- (a) 'Abhidha Shabd Shakti' (i.e. Connotative word-power), (b) 'Lakshana Shabd Shakti' (i.e. Denotative word-power); and (c) 'Vyanjana Shabd Shakti' (Sarcasm word power). According to these three word powers, 'words' are also considered to be of three types - (a) Vaachak Shabd (i.e. Significant word), (b) Lakshak word (i.e. 'mark word'); and (3) 'Vyanjak shabd'. Therefore, according to the word-powers, three categories of 'meaning' are determined on the basis of these three types of words. These are (a) 'Vaachyaarth' (i.e. 'literal meaning'), (b) 'Lakshyaarth' (i.e. 'figurative meaning'); and (c) 'Vyangyaarth' (i.e. 'sarcasm'). Now let us consider the categories of word powers.

(a) 'Abhidha Shabd Shakti' (Connotative word-power) : The word power 'Abhidha' is denoting the 'literal meaning'. The power of the word due to which the main meaning of a word is understood is called 'Abhidha Shabd Shakti'. While listening or reading a word, generally its prevalent lexical meaning is understood first. The word which gives an understanding of its main meaning is called 'significant word' and the known meaning is called 'main meaning'. For example, 'My only support is in God.' According to this sentence, the main meaning of the word 'God' is literal meaning.

(b) 'Lakshana Shabd Shakti' (Denotative word-power) : The power by which, due to custom or purpose, when there is an obstacle in the main meaning of the word power, another meaning appears related to the main meaning. It is called 'Lakshana Shabda Shakti'. The word which signifies power and purpose is called 'Lakshak Shabd' and the meaning obtained by 'Lakshana Shabd Shakti' is called 'Lakshyaarth'.

Through the power of the word Lakshna, there is an understanding of the target. Another meaning remains hidden within this type of word. For example, the word 'snake' literally means 'a reptile that crawls.' But when we say that the person is a snake which means we are indicating about the deceitfulness and cunningness of a person. So here the meaning of 'snake' is not a creature crawling on the ground but a deceitful/cunning person. It is believed that no matter how much milk is fed to the snake, it does not desist from its nature and takes it as soon as it gets an opportunity. Therefore, if it is said that 'Ramesh is a snake.' instead of taking its conceptual meaning, it should be taken in its figurative meaning.

The thing to keep in mind is that while using the language of Lakshna word power, there is either a special purpose to present a different meaning from the main meaning or this type of different meaning is presented due to custom or tradition. In the above-mentioned example, 'snake' does not mean a reptile because a person cannot become a reptile by giving up his

form, colour, shape, but the other meaning that has been taken is a deceitful sly; it is related to a snake, because according to tradition, snake is a deceitful and cunning reptile. The reader or listener also accepts this meaning which is different from the main meaning.

(c) ‘Vyanjana Shabd Shakti’ (Sarcasm word power) : Sometimes the intended meaning of a sentence is not known by the Abhidha or Lakshna word power. In such a situation, the word power by which the intended meaning is reached is called ‘Vyanjna Shabd Shakti’ (Sarcasm word power). The meaning received from this word power is called ‘Vyangyaarth’ and the word is called the word ‘Vyanjak Shabd’.

To clarify the concept of ‘Vyanjana Shabd Shakti’ (Sarcasm word power), let us take an example. Suppose a farmer goes to work in the fields every day at sunrise. One day it slept for a long time and did not care about the time. If a person tells him that ‘The Sun has come on the head’. So it would mean in Abhidha that ‘the Sun has come just above the head.’ and in Lakshana it would mean ‘it is noon’ but the vyangyaarth would be ‘to stop sleeping, get up and go to work in the fields.’

7.8.2 Role of Word-powers in Translation

Any person can prove to be a skilled translator by studying these activities of word powers and their regulatory purposes. That’s why the translator should have a deep understanding of word powers and should translate keeping them in mind. While translating connotative meaningful sentences (e.g. ‘He is wise man’), the translator uses the lexical meaning of the words. This work is done relatively more simply because the general meaning remains the same in both the languages. But the meaning of the predicate is changed in the ‘Lakshna’ and ‘Vyanjana’ word-power rich sentences.

As far as Vyanjana word-power is concerned, it is based on the understanding of the obscure meaning. Abhidha and Lakshna tradition make the famous meaning clear with the help of relation, but both of them are not able to make sense of the unknown meaning. In that situation, the function of ‘vyanjana’ is double; it makes sense of both types of verses. That’s why words become expressive through sarcasm. The experience of sarcasm pervades everywhere in word, meaning, post, character, composition-nature etc. Therefore, there is a danger of a expert translator failing to properly identify the power of ‘vyanjana’ and render it accurately in the target language.

In fact, the user and translator of the language should also have the understanding of the powers of the word and the ability to analyze them. Just like we can understand the meaning of idioms and proverbs only after knowing the secret of Lakshana and Vyanjana word-power. The reason is clear that in such figurative and sarcasm usages, a straight forward meaning is not even desired. For example, we cannot translate the Hindi usage of ‘Ghar Ka Chiraag’ as ‘Lamp of the family’. Such translations destroy the meaning. In such a situation, we have to avoid word-for-word translation by understanding the intended meaning and have to translate the desired meaning in a concise, comprehensible and context-relative manner. Therefore, if we translate ‘Ghar ka Chiraag’ as ‘Hope of the family’ then it will be a better and acceptable translation. That’s why it is said that the translator should understand the power of the word and try to reach its coverage.

In fact, It is the responsibility of the translator to understand the true meaning of the words of the source language in the light of their power and conveying it in the target language properly.

7.9 Word Repository and Translation

After studying the characteristics of words, a question may naturally arise in your mind that why words are needed to be formed? Why can't we work with the existing words of the language? In answer to this question, we can say that human life is in constant motion. Social, historical, cultural conditions also keep changing according to time. New concepts and ideas keep getting incorporated. As per the need, the person tends to create new words for the expression and operation of the development of his existing objects, situations, thoughts, feelings and arrangements.

There are many words which have more than one meaning. Which of those meanings of a word used in a sentence should be taken; it is the most important part of translation art. To know this, it is necessary either to see the context or the relation of that word with other words of the sentence. This means that the translator has to see that with which word is the proximity of that word, what is its combination or association with other words, what is the context? According to the time or space, what is the vision, effort or sound of the one who says, writes or listens? Also, because of the powers of the word, the translator may be able to know the intended meaning.

There are several regulatory bases for understanding the intended meaning. The translator should be well acquainted with these bases. Some of the major bases are - coincidence, association, episode, gender, contiguity of other words, time-space, person, voice etc.

Due to new knowledge, scientific invention and cultural-business contact in the world, man creates new words. This is also the ultimate need of its development and its compulsion. Today the whole world has turned into a global village. Due to consumerism and the transition of cultures, words from different language families have mixed and have mixed together. It is an indicator of the development of vocabulary of any language. It is a historical fact that the languages which adopted only the purist have either become extinct or is on the verge of extinction. By coining words and by assimilating words from other languages, the language continues to get life. The continuous formation of words increases the vocabulary of the language and it provides new expressions by combining it with new meanings and shadows.

Individual and collective efforts are being made in the growth of word-repository, as well as government of India's efforts are also being made. Keeping in view the richness and prosperity of Hindi language, under Article 351 of the Constitution of India, the Government of India has also established the 'Commission for Scientific and Technical Terminology' (CSTT) to increase the terminology. This Commission has created and is doing words on the

basis of adoption, adaptation, innovation and translation process as per the requirement. You will study this topic in more detail in the subsequent units of this course.

Vocabulary plays an important role in translation. In the absence of vocabulary, the translator faces a lot of difficulty in translation. If there is no multiplicity or diversity of words in the target language, then its translation work will become difficult. For example, see the following sentences :

- (1) Smoking is not permitted here.
- (2) Smoking is not allowed here.
- (3) Smoking is prohibited here.

All these sentences are personifying the same meaning, although the structure of all the three sentences is different. Therefore, based on the knowledge of the vocabulary of the target language, the translator will translate the above three sentences into Hindi with a variety of words. Thus we saw that the words ‘permitted’, ‘not allowed’ and ‘prohibited’ have been used. Although all the three words express the same type of meaning. But this diversity of words gives new dimensions to linguistic expression.

A successful translator is expected to know the grammatical categories of words in the source language and words in the target language. Dictionaries are the only option to tell about these characteristics of words. On the basis of dictionaries, the translator can determine the appropriate word by knowing its connotations and synonyms. In particular situations, contexts and registers, dictionaries are not only necessary, they are superfluous. Vocabularies of a particular region or its language usages are specific in themselves and general language knowledge or word knowledge is not sufficient in their translation. Therefore, for the accuracy or precision of their translation, it is necessary to see the dictionary related to the special application. For example, ‘accounting’, ‘inflation’, ‘tender’, ‘devaluation’, ‘liquidity’, ‘depreciation’, ‘credit’, ‘drawing’ etc. are words related to the field of commerce. These types of words are not used or are rarely used in the colloquial language related to the day-to-day life of the common man. That’s why it is necessary to see the dictionary related to the special usage for their exact opposite and translation. The linguist and translator whose word-memory and word repository is rich, he will be able to become an authority user of words.

7.10 Selection of Words in Translation and its Importance

Language is the medium through which we exchange our thoughts and feelings. In its definitional sense, language is called a random sound-symbol system. This sound-symbol is actually a vowel-consonant, the groups of which make up words. Each language has its own system of linguistic structure. If language is used according to the proper system of the language, then it becomes more famous. If the words and symbols of the language do not succeed in conveying their meaning, then their existence becomes valid. Similarly, if a sentence made of word symbols does not give appropriate meaning, then this sentence is also considered meaningless and useless. That is why it can be said that the word-symbol has an unbreakable relation with the expression of the text.

It is in the light of this relation of words with text and expression that we need to pay special attention to choice of word. The poet or writer weaves a web of words with his creativity, selects meaningful words from the vocabulary. Like the author of the original text, the translator also has to choose meaningful words. But while translating, the biggest challenge before the translator is to choose the appropriate words from the word-repository. The meaning of the language itself changes with the words. Somewhere the odor of indigenous word becomes a problem, somewhere culture-specific terms are chosen, somewhere foreign words are chosen, and in some place the technical/definitional words. In the same way, the specific words and idioms-proverbs of languages and dialects also create difficulties. It is necessary to understand such nuances while translating so that the translator can prove successful in conveying the meaning of the original text to the reader.

In this way, it should be clear that there is no such word in the language, which is completely synonymous with another word. There may seem to be a practical similarity or nearness in these words, but there cannot be any similarity as such. If so, the question mark on the existence-power of the word to be called similar or synonymous will take. The context-relativity separates the identity and usability of words. That's why difference in meaning arises due to difference of usage and context in language. The translator can reach the right destination of translation only by identifying the shades of meaning and usage of words in the language.

The world of words is huge. Therefore, through practice and experience, only through study and analysis, the shades of meaning implied in the words can be understood, to be opened layer by layer. The truth is that every word has its own history, source and its own journey. The word itself becomes the 'mantra' (abracadabra) to win 'heart' and the word itself also becomes the reason for war. That is why it is said that for linguistic authority, the language-user or the translator should know how to recognize the pulse of words, understand the blood pressure of words. The limits of words and the power of words make the user a 'Hero' or a 'Zero'.

7.11 Let Us Sum Up

In the present unit you have studied about the concept of word and its dimensions. It must have become clear from this study that the role of 'word' in the language. The user of the language selects the correct word keeping in mind its purpose, reader and reasons of use. Just like at the intersection of the road, by following the traffic rules of the red, green, yellow lights, the passengers take the meaning according to the expectation and achieve the goal. Similarly, the reader, the listener takes the meaning of the words of the language. Without meaning, words are useless. The power of the 'word' is actually linked to the meaning. Word and meaning are complementary to each other, just like body and soul without body the soul seems meaningless and without the soul the body is useless. That's why the power of words in language is meaning-based. The meaning is user and society relative. Its acceptability or public acceptance is important.

Writer or translator with the help of synonyms, antonyms, equivalent, poly-semantic form, pair, repetition-distinction, definitional format, semi-definitiveness, abbreviation, word-friendship, word power, root words, prefix-suffix or conjunction-combination should be acquired the know of the process of word formation, word association, use of one word for many words, similar-dissimilar words etc. And in the same way, complete and in-depth knowledge of the world of words (such as indigenous, foreign, tatsam-tadbhava and hybrid etc.) should be acquired by them.

The poet or writer also reveals new meanings of words with his creativity and also gives a new direction to the traditional verses. It really depends on the vision, experience and creativity of the user, the creator. In such a situation, the translator also has to see the basic intention of the use of the source language, whether the used word convey a direct sense or denotative sense. Like the author of the original text, the translator also has to choose meaningful words. For that selecting the appropriate word from the word-repository is a challenge in itself. Words change the meaning of the language. The flavour of the indigenous (native) word, the culture of the cultural word or the challenge of the foreign word also does not reduce. In such a situation, special care needs to be taken towards selection of word, hence it is said that the selection of meaningful words has special importance in translation.

7.12 Exercises

1. What do you understand by 'word'? Explain the importance of words in language and society.
2. Throw light on the meaning and relationship element of language.
3. Express your views on the sources and types of words.
4. Explain the word-making process.
3. Explaining the meaning of word powers, throw light on their importance in translation.
6. Why is the knowledge of vocabulary necessary for a translator? What is the importance of selection of word in translation? Explain.

7.13 Suggested Readings

- Tiwari, B.N., *Shabdon Ka Adhyayan* (Study of Words), Delhi, Vocabulary
- Ruvali, Keshav Dutt, 1990. *Samanya Hindi* (General Hindi), Almora, Shri Almora Book Depot.
- Tandon, P.C., 1998. *Anuvad Saadhna*, Delhi, Abhivyakti Prakashan.

UNIT 8 TECHNICAL TERMINOLOGY : NATURE, TYPES AND CHARACTERISTICS

Structure

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Technical Terminology : Meaning and Definition
 - 8.2.1 Technical Terminology : Etymological Meaning
 - 8.2.2 Technical Terminology : Important Definitions
- 8.3 Types of Technical Terminologies
- 8.4 Difference between General Words and Technical Terms
 - 8.4.1 Similarity-Dissimilarity at the Structural Level
 - 8.4.2 Dissimilarity at the level of Semantic
- 8.5 Characteristics of Technical Terminology
 - 8.5.1 Abnormality
 - 8.5.2 Definability
 - 8.5.3 Communicators of specific or fixed meaning
 - 8.5.4 Non-replacement
 - 8.5.5 Difficulty
 - 8.5.6 Subjective or Conceptual
 - 8.5.7 Semantic Stereotype
 - 8.5.8 Semantic Subtlety
 - 8.5.9 Semantic Difference
 - 8.5.10 Artificial Construct and Symbolic Representation
 - 8.5.11 In accordance with the nature of language and method of pronunciation
 - 8.5.12 Expandability
 - 8.5.13 Possibility of Standardization by Maintaining Uniformity in Usage
 - 8.5.14 Aiding for Development of Style of Technical Writing
- 8.6 Let Us Sum Up
- 8.7 Exercises
- 8.8 Suggested Readings

8.0 Objectives

After going through this unit, you should be able to :

- know the meaning and nature of technical terms;
- know about the different types of terminologies and classify them;
- know about similarity-dissimilarity in general and technical terminology at structural and semantic structure level; and
- understand the various features/characteristics of technical terminology.

8.1 Introduction

Before knowing about the technical terminology, it is necessary to know about the meaning of the word and other dimensions like source of words, type, need, word powers etc. Keeping these aspects in mind, in the previous unit you have come to know about the concept and dimensions of the word in the light of all these aspects. In this process it must have become clear to you that what is the importance of the word in translation. After realizing these dimensions of words, it will be easy to understand what is meant by technical terminology?

This Unit is related to nature, types and characteristics of technical terminology. In this, first of all, clarifying the meaning and nature of the technical term, it has been told that there is no difference between general and technical terms at the structural level. It has also been told that how similarity-dissimilarity is found in them at the level of meaning-structure. In this unit, various types of terminologies are explained and classified. Understanding the nature of technical terminology is incomplete, unless we understand its various characteristics. Therefore, this aspect has also been discussed in detail in this unit. After going through the unit, you will be able to understand why it is necessary to understand the concept of technical terminology, its related ideologies, principles, strategies and their need in translation.

8.2 Technical Terminology : Meaning and Definition

Language is a powerful medium of communication. Human expresses his feelings, thoughts or concepts through language. Man learns language while living in the society and uses it only in the society. By the way, language is not the end of communication but only a means. Language is a set of meaningful words and its function is to convey meaning. This meaning is understood by those who know that language. While the words express the literal meaning by making them understand the semiotic meaning, they also make them understand the meaning different from it in the form of connotative meaning and sarcasm. In different contexts, they can also give the impression of purpose and also of sarcasm. But basically they are signifying the meaning. That's why words have the power to convey meaning. Word is a very important unit of language. The abundance of words in a particular language proves its ability to express more meanings.

The words themselves convey general and technical meaning. Words which do not contain any technical aspect are 'common words'. There is no need to clarify anything about them. Their specialty can be said that they can be easily identified. Common words are basically related to concrete objects, conditions or states and are used in common day-to-day dealings. 'School', 'fruit', 'childhood', 'boil', 'sweet', 'pen', 'solid', 'book', 'sniff' etc. are common words. But, technical words are supposed to express specific meaning in themselves. It is necessary to consider them in detail. Let us know what is the etymological meaning of 'technical term'?

8.2.1 Technical Terminology : Etymological Meaning

'Technical Terms' of the English language, used in the context of words in the literary world (even if it is related to literature of knowledge or the literature of pleasure) the Hindi equivalent of the word is 'Paribhashik Shabdavali'. The word 'technical' is an adjective and

is derived from 'Technique'. This original English word is basically derived from the Greek language's word 'Technika', which means - art or craft; and 'ique' means - its (related to it). Thus the meaning of the word 'Technique' is - of or related to art or craft. In Greek 'Teckton' means 'carpenter/builder'. In Latin 'texere' is used to mean 'weave' or 'make' or 'build'. Thus, this Greek word refers to the art of making or preparing something. The same meaning is also revealed by the word 'Technique' in English. These words are different from the words used to denote the naturally occurring human-familiar things in the world.

According to the dictionary, the literal meaning of the word 'Technical' is – 'of a particular art, science, craft or about art' which means 'of special art or science or about art'. It is clear that the (technical) word carries the meaning of 'making', 'making ready'. On using this meaning with the word 'Term', i.e. on writing 'Technical Term', it implies that it is a man-made or designed or invented idea or object. It would not be inappropriate to indicate here that in place of the English word 'Technical', the word 'Definitional' is more accurate, because the word 'Technical' is related to technique or technology.

8.2.2 Technical Terminology : Important Definitions

For the understanding of the meaning of the technical words, it is expected to pay proper attention to the related definition or interpretation. Random House has given the definition of 'term' in these words - 'A word or phrase used in a definite or precise sense in some particular subject as a science or art a technical impression (more fully term of art.)

In the preface to the Chambers Technical Dictionary, it has been said in relation to the technical term that 'What it may be asked is a technical term? It may be defined as a word or expression which has special significance and value to a person learned or dexterous in a branch of knowledge relating to some particular human activity or to some particular aspect of human nature.

In 'Paribhashik Shabdavali Ki Vikas-Yatra' (Development-journey of Terminology Terminology) edited by Dr. Gargi Gupta, while defining the term 'terminology', Dr. Raghuvir is written - 'What is technical terminology? Which has been defined. Technical word means that which has been bounded....words which are bounded, they become technical words and those which are not bounded are ordinary words.' (p. 19)

With regard to technical terminology, Dr. Gopal Sharma has written in the book titled 'Anuvad Kala : Kuchh Vichar' (Art of Translation : Some Thoughts) that 'a technical word is a word which is used in a certain sense in a particular field of knowledge and the meaning of which has been fixed by a definition.' (p. 192)

Dr. B.N. Tiwari has written in his edited book 'Paribhashik Shabdavali : Kuchh Samasyayen' (Technical Terminology : Some Problems) that 'Technical words are such words, which are the words of different sciences or scriptures like chemistry, physics, philosophy, politics etc. and which are used in their respective fields, are precisely defined in a specific sense. These words are called technical words because they are definitely defined in terms of meaning and usage.' (p. 16) In the same book, in the context of terminology, Mr. Mahendra Chaturvedi says that 'Technical terms have two qualities - (1) assigned meaning; and (2) mutual

exclusiveness. The meaning of the technical word must be fixed and there must be only one word expressing one (principal) meaning.’ (p. 110)

In the article titled ‘Paribhashik Shabdavali Aur Anuvad’ in the book ‘Anuvad : Siddhant Aur Samasyayen’ (Translation: Theory and Problems’ edited by Dr. R.N. Srivastava and Dr. K.K. Goswami, Mr. Jeevan Nayak has written that ‘when a word is used in a certain sense in the field of special knowledge, it is called a technical terminology.’ (p. 131)

Dr. P.C. Tandon in his book ‘Anuvad Sadhana’, while defining the technical terminology, has written that ‘technical terms are meaningful (emotional) or conceptual words, that is, they define the meaning of a word in the appropriate context, so that the meaning of the word, the concept should be formed in the brain.’ (p. 106)

While defining the technical terminology, Dr. Dangal Jhalte, in his book ‘Prayojanmoolak Hindi : Siddhant Aur Prayog’ related to Functional Hindi, has written - ‘which words are not used in the language of common practice, but according to the subject and context in different fields of knowledge, that are used in a specific but definite sense are called technical terms. It can also be called technical terminology.’ (p. 100)

The definitions given by various Hindi scholars show that the technical terms are those, which are not related to general linguistic practice but to different areas of knowledge and for each area, the meaning-boundary is fixed to present the concepts in a formal way remains, so that they can be precisely defined. On the basis of the above definitions clarifying the meaning of the technical term, we can say that ‘the word can be called a technical, which is used in a certain sense in a specific field of knowledge from the point of view of meaning and use and which be with the definition.’

It is clear from the aforesaid views on technical terminologies that these words are related to specific subject related to discipline, science or art and they are used in specific meanings. Defined words used in fields like commerce-trade, bank, administration, science, social science etc. These are unusual words. These words are not used in general practice but only in subject-specific contexts in a certain sense. For example, the words ‘section’, ‘division’, ‘notification’, ‘office order’, ‘tender’, ‘contract’, ‘advertisement’ etc. are used in official language. Similarly, the words ‘noun’, ‘pronoun’, ‘adjective’, ‘adverb’, ‘vowel’, ‘consonant’, ‘phoneme’ etc. are used in the field of linguistics.

8.3 Types of Technical Terminology

Word is an independent, meaningful and very important unit of language. The more the language is used in more areas of life, the language-specific vocabulary also keeps on developing according to them. The vocabulary of Hindi language has been enriched through various sources of words. It includes *Tatsam* words that came directly from Sanskrit, *Tadbhava*, indigenous word of Hindi dialects; and alien words (obtained from foreign languages). These have been discussed in the previous Unit No. 7 and you have got an idea about them.

There is no difference between general and technical terms on the basis of the process of creation of words, but the difference of usage establishes difference in words. Some specific and different forms of technical words give them a characteristic in comparison to general words. That's why different scholars have divided them into different classes on the basis of their usage.

Shri Rajendra Lal Mitra, the first Indian thinker to thoroughly examine-analyze in the field of terminology, has divided technical terms into six categories in his booklet titled 'A Scheme for the rendering of European Scientific Terminology into Vernaculars of India' published in 1877. These terms are - (1) General words: which are sometimes used as defining words. (2) Those words which are used as general words and also in the form of definitional words, but mainly in the field of humanities, they can be called semi-definitional. (3) *Yogrudh* (combined routine) words come in this. At the time of creation, these words were indicative of the specific properties of things, but now their old etymological meaning has disappeared and now they are just names, like quinine, oxygen, etc. (4) Binomial names used in botany and zoology, which were originally etymologically meaningful, but now both their words reveal only 'genus' and 'species'. (5) These technical terms which still retain their etymological meaning, e.g., crystallization, germination, etc. (6) compound word : in this one or both words give their etymological meaning, like sulfuric acid. The words of this class are belongs to anatomy or chemistry.

By making the vocabulary of social sciences the subject of his research and review, the first Ph.D. studying Dr. Gopal Sharma in his thesis considering the word and the technical word has written that 'Technical terms are of three types: (1) complete definitional, (2) intermediate; and (3) General.'

Dr. Vinod Godre in his work 'Prayojanmook Hindi' has underlined the absence of a definite basis for the classification of technical terms and has believed that 'to avoid the confusion of more details of classification bases and classification distinctions' can be divided into two parts: (1) complete technical terminology, which is the comprehensive terminology of the vocabulary used in the branches of science, knowledge in various researches. (2) Quasi-technical terminology, in which general terms become defined terms in a particular context. Since these are not generally defined words, but sometimes they become defined by the need of the context, so they can be called definitionally oriented general words. These can also be called semi-technical terms.' (p. 160)

It is clear from the discussion made so far that there is a lack of any definite basis for classifying technical terminologies. For example, if the technical terms are classified on the basis of source, then many subcategories will also be formed of technical terms of the input or western category. Similarly, the classification of technical terminologies done on the basis of subject will also be divided into many branches and there will be mutual encroachment. That's why it seems appropriate to take the support of their use or behaviour regarding technical terminology. On this basis, it seems to be simple, clear and logical to classify the term terminology into (1) semi-technical terminology; and (2) technical terminology.

While considering the meaning and nature of the term ‘technical term’ in section 8.2 of this unit, it has been clarified that these words are related to a specific subject/discipline, science or art and they are used in specific meanings in them. These are unusual words and they are not used in general practice but only in a specific subject in a certain sense. That’s why now we will know only about ‘semi-technical terminology’ here.

Semi-Technical Terms : Semi-technical terms are the words that come in the position between general and technical words. They are not only used in normal life, they are also used in the context of any specific field of knowledge. The specialty of these words is that their technical meaning is proved by interpretation, public-use, extension of meaning, displacement of meaning, and prossemic specialization of meaning. There is no change in the form of the word at the level of being used in public-behaviour and scripture/knowledge-domain, they only take new meaning, e.g., ‘mouse’. These types of words have translation properties of meaning, that is, they are used in general sense as well as technical term. If these are clarified, then the scientific-technical specialty related to the specific field of knowledge will be seen in them.

8.4 Difference Between General and Technical Terms

Merely calling it a ‘technical term’ distinguishes it from a ‘general word’. Here, first of all, it becomes considerable that what is the basis of similarity-dissimilarity between general words and technical words? What happens is that sometimes the same word can take on a technical form in different contexts as well as a general one. For example, if it is said colloquially that ‘I object to his words’, then the word ‘objection’ seems normal here. Whereas if the word ‘method’ is used in the context of say ‘objection of the defendant’ then ‘objection’ is a term of definition. Thus, if a word is used in a specific sense, it is technical, otherwise it is general. Aristotle has also said in his ‘Poetics’ that the same word can be technical/definitional as well as general in different contexts. General words are words used in the traditional sense in common language, while technical words are used in a specific sense in knowledge-domain or science. The similarity and dissimilarity between common and technical words can be seen in terms of (1) the structure of the words; and (2) can be seen from the dimension of meaning.

8.4.1 Similarity-Dissimilarity at the Structural Level

Looking at the level of word structure, this dimension is related to the method of word-formation. Word formation follows linguistic rules and is based on grammar. This grammar is the same for common and technical words. Words are formed by combining prefixes and suffixes with root base. Common and technical words are formed from these three elements. Words are derived by adding prefix-suffix or word to the root base. In addition to prefix-suffix, compound is also a method of word formation. Through these, the help of joining can also be taken in the process of word-formation. They have specific rules in the language, from which the structure of words is formed.

8.4.2 Dissimilarity at the level of Semantic

The basic difference between general and technical words is actually at the level of semantic structure. The meaning of the word in the language is accomplished by word power -

Abhidha, Lakshana and Vyanjana Shakti. One can use the word in his own language with reference to these meanings according to the purpose and point of view. In particular, the figurative use of words in literature gives it a specialty. While the technical/definitional word has the quality that the predicate gives the same meaning in the context of a particular subject, we do not get the same meaning in any other place. In literary language, 'shedding rivers of tears' is a figurative expression, because there is no such person whose eyes can shed rivers of tears. If seen in this way, here the meaning-expansion has been done by bringing deviation in the original meaning. Whereas when the word 'river' is used in the context of knowledge, its original meaning is seen in a stable form. In that case the original meaning of 'river' is stable. There is objectivity in that. Technical words are scripture-related, there is certainty and subtlety in the meaning expressed by them. This type of specificity of technical terminological terms gives them a different identity from the general word at the level of meaning.

Terminology (technical) words can also be expressive of the meaning of a business, process or a specific concept (like decimal, equation etc. in 'Mathematics'; sound, phoneme, morphemes etc. in Linguistics; 'maya', 'moksha' etc. in Philosophy. Technical terms also denoting solid things (e.g., calcium, nitrogen, sodium, carbon etc. in Chemistry; xylem, phloem etc. in Botany; 'cell', 'artery', 'protoplasm' etc. in Zoology). Material words refer to a variety of physical objects. The abundance of such words is often in the realm of natural sciences, while conceptual words are relatively more subtle and abstract. It is necessary to define such words. The basic reason for defining them is that superficially that particular word may give the impression of general meaning, but in reality it has another definite meaning. Like 'density' in the field of physics. The word can also be taken, which in general means density or thickness, while in subject-specific it is used in the sense of 'amount of unit volume of something'.

8.5 Characteristics of Technical Terminology

In order to clarify the meaning of technical words, where proper attention is required to its definition or interpretation, it is necessary to know and understand their characteristics in order to use them accurately. Various scholars have considered the characteristics of technical terms. The salient features of the technical terms, as a whole, are as follows :

8.5.1 Abnormality

'Abnormality' or we can say 'Specificity' is a distinctive feature of the technical terminologies. 'Abnormality' - the thought or hypothesis associated with the technical terminology is not generally used in practice. Hence technical terms are far removed from daily life. Idiomatic words are unusual for the language of everyday use.

8.5.2 Definability

The main feature or characteristic of technical words is their definition. That is to say, technical terms are defined. They cannot be understood for the most part without giving a definition. Technical terms are explained by giving definition according to their concept or by

explaining the concept. For example, 'temperature', 'coefficient', 'ohm', 'volt', 'spectacular', 'density' etc. can be seen, which are defined terms.

8.5.3 Communicators of Specific or Fixed meaning

The words of any language carry a specific meaning. There is a possibility of expansion of meaning in general and literary words, whereas in scientific and technical words there is a contraction of meaning. In the technical terminology of Linguistics it is called 'prosemic specialization of meaning'. In the context of knowledge-specific terms, they are based on the principle of 'one concept or meaning of one word' i.e. the technical term expresses only one technical/definitional meaning. And this meaning is determined in the context of a particular subject area. They don't have synonyms. It is noteworthy that words cannot transgress the limits of their definite meaning. For example, the technical term 'post' may be taken to denote the rank or status of a person in an office in the field of administration, in Hindi 'verse' in the field of poetry, social status in the field of sociology in Indian perspective and 'word form' in Hindi grammar. Similarly, the word 'Sandhi' can be taken to be used in 'Physiology', a branch of science. In physiognomy, the word 'conjunction' is used for the union of bones, while in political science, the same word is used for the agreement between two states, and in 'grammar' it is used for the union of two adjacent vowels.

It would also not be inappropriate to mention here that in the English language there is a lack of words that convey such fixed meaning. 'Degree', 'Bill', 'Balance' etc. are such words in which the absence of completeness can be underlined. In the field of education, the word 'Degree' signifies certification of particular level i.e. 'degree', while in the field of law, it means 'right to take action against'. Similarly, the word 'Bill' is 'invoice' in the context of accounting, while in parliamentary terminology 'Bill' and in the field of science this word is expressive of 'balance' and in the field of accounting 'due or 'balance' or 'of the rest'.

8.5.4 Non-replacement

'Non-replacement' or 'Irreplaceable' means - irreplaceable by substitute. That is, only one definite synonym can be kept for the technical term of a particular field of knowledge. No other option can be used. This means that no other word can take the place of a specific term used for a specific concept of a specific field of knowledge. For examples 'issue' in the administration, 'Proclamation', 'notification' in the legal field; 'INSAT', Satellite etc. in the space field. Similarly, in the fields of mathematics, physics, chemistry, biology, computer science and space science, synonymous terms of 'chromosome', 'equation', 'symbol', 'binomial', 'compound name' etc. can not be used.

8.5.5 Difficulty

Difficulty or ambiguity prevails in some technical terms. Their meaning is mysterious. The meaning of ambiguity is that such an intention remains hidden in the terminology, which is not clear from the adjective of the word. Even after knowing him, he cannot be understood. Such words can be understood by tradition and usage. Hindi '*Advaita*' word of philosophy, '*Kundalini*', '*Maya*' and '*Brahma*' etc., due to the abstruseness in the meaning of the technical terms, there is confusion in them.

8.5.6 Subjective or Conceptual

For the development of each subject, there is a need for the development of such technical terms, in which thoughts and feelings can be expressed with full capacity. For this reason, every technical term is associated with some subject-area and derives its technical meaning and definition from the same. Every technical term has certain connotations and meanings attached to it. However, it is possible that technical terms in one discipline may convey a different technical meaning in another discipline. But it is not possible that the same technical term is used in two different meanings in the same subject area. Its meaning is determined in the context of the particular subject and it is used in the same sense. For example, in the banking sector, the intended meaning of the words 'crossed cheque', 'overdraft', 'time deposit', 'savings account', 'current account' etc. are clear in the field of banking practice. The term 'crossed cheque' generally connotes 'a cheque with a line drawn on it'. While in the banking practice, its definitional meaning is - 'A cheque on which two parallel lines are drawn on the left side and the amount mentioned in it can be deposited in the account of the person in whose name the cheque is drawn, and not to another person.'

To understand the technical terms, basic knowledge and knowledge of the subject/discipline is necessary. The use of subject-specific terminology is easy for a person who is knowledgeable about the subject, who has studied the subject and is engaged in activities related to it. In the absence of this information, the common man cannot understand the subject. Since the technical terms related to the concept are abstract, it becomes necessary to define them, so that their meaning can be understood. The words 'computer virus', 'programming', 'software', 'hardware', 'floppy', 'hard disk' etc. have taken technical form and these words can be understood only in the context of computer science, a branch of applied linguistics. In other words, technical terms are subject-relative.

8.5.7 Semantic Stereotype

While technical words are carriers of specific meaning, they are also stereotypes in that specific meaning. The relationship between a technical word and the meaning of that particular word gradually becomes stereotyped through continuous use and practice. If the synonym is used in place of the technical/definitional term or any part of it, then it distorts the translation. Sometimes the general meaning (semantic) conveyed by a term may be different from its technical meaning. For example, the 'mouse' device is used in computer technology, with the help of which lines etc. are drawn on the computer screen. It is a small device like a mouse and it is used by moving it around on a plate placed on the table. Whereas the classical (original) meaning of this term in English is not this. A translator conversant with the classical meaning may translate it as 'rat'.

8.5.8 Semantic Subtlety

The meaning of the general words is more comprehensive and detailed. It can be said in the style of linguistics that the general word has a wider meaning. In addition to the main meaning, many secondary meanings are also contained in them and their symbolic use is also possible. In this way, general words have a very wide range of meaning, while technical words have a very subtle, deep and detailed meaning. It not only expresses meaning in the context of a particular subject-area, but it also reveals the meaning of a subtle part of that

particular meaning. For example, using the common word 'ray' figuratively, it can be used as a 'ray of hope', while in science terminology it has particular meaning. The common man does not know this kind of subtle difference, whereas in the domain of knowledge or science, subtle differences between two ideas or concepts are disclosed through different definitions. Other terms denoting such a subtle difference are 'speed' and 'velocity' or 'heat' and 'temperature'.

Although most of the terminologies come from the general vocabulary prevalent in common sense in public practice, but when they are used in different domain of knowledge or subject-areas, special technical meanings are imposed or made in them.

One aspect of the meaning-subtlety of the technical terminology is that along with the refinement in scientific-technological thinking and concepts, the new fundamental ideas that come to the fore, the meaning of the technical term also keeps on getting more and more subtle. Like the common words of the English language, the words 'Programme' and 'Memory', are expressive of specific and limited meaning in computer science.

8.5.9 Semantic Difference

The difference in meaning – semantic difference - comes from the technical words. Not only a meaning is expressed by the technical/definitional words, but the expression of its subtle part of meaning or sense brings subtlety in the meaning. With the refinement of scientific and technological concepts, distinctions in the meanings of technical terms keep on developing. These words may seem homogeneous, but there is a subtle difference of meaning in these distinctions. By defining different technical terms, where they are given a technical form, the difference in meaning between them is also kept safe. These subtle differences may not matter in non-technical field or in general practice, but in science or technological context, these distinctions have their own importance. The words 'epidemic', 'pandemic' and 'endemic' are expressions of subtle semantic differences. Similarly, the word 'development', 'growth' and 'evolution' are different definitions expressing subtle meaning.

It is important for the translator to maintain such distinctions in the translated text. For this, he needs to maintain their semantic difference while using precise definitions. For example, the words 'salary' and 'income' are synonymous in the general context, whereas in the context of Income Tax they are two distinctly defined concepts.

8.5.10 Artificial Construct and Symbolic Representation

Most of the technical terms are created artificially. Due to the ever-new discoveries, state-of-the-art development and creation of new things in various fields of knowledge, it becomes necessary to create new words according to them, to express them, to represent new subjects or to clarify new concepts. It means, words are formed according to the subject, situation and context. This word-formation is artificial. Apart from this, sometimes artificial technical terms are coined on the basis of inventions, inventor scientists, theorists or symbols. 'Joule', 'Mu', 'Lambda', 'Pie', 'Darwinism', 'Gandhism', 'Marxism', 'Fascist', 'Galvanization' etc. are such words which are based on the discoverer, theoretician or symbols.

8.5.11 In accordance with the nature of language and method of pronunciation

The structural form of the technical terminology should be compatible with the nature of the language and the method of pronunciation, so that there is no difficulty in their behaviour.

The technical term, when uttered, must be capable of conveying the concept contained in it. The compatibility of the nature of the language and the method of pronunciation has to be taken into account especially in the context of a word taken from another language. Regarding the technical words, it has been seen that the words which have started in the Hindi language, have adapted to its nature or pronunciation. But technical words which are not used much or which are not often needed, they are easy to adapt to the nature of their language. For example, the word used in Hindi 'computerization' evidence of adaptation at the level of word formation and '*Trasadi*' for 'Tragedy' at the level of pronunciation. Among the simplicity and purity of the technical term, priority should be given to purity.

8.5.12 Expandability

'Expandability'/'extensibility' is a distinctive feature of technical terminology. Here expandability means - there should be a possibility of extension in the terminology i.e. the terminology should be such that other intended terminologies can also be coined to reveal other aspects of the related subject, field, principle or concept. There is a possibility of such expansion in the language. The English language is endowed with this quality, while the Hindi language is alleged to be lacking in this quality. While the reality is that the Hindi language is endowed with the quality of the possibility of vocabulary-expansion. Great lexicographer Dr. Raghuvir recognized this expansion of Hindi and took special care of it in the dictionary-making work. He used the English words 'Television', 'Teleprinter', 'Telescope', 'Telephone'. In the root of the words 'Tele', by translating the word '*door*' in Hindi, the words '*Doordarshan*', '*Doorbhash*', '*Doormudraka*', '*Doordarshak*' etc. were made respectively.

8.5.13 Possibility of Standardization by Maintaining Uniformity in Usage

Uniformity in use makes standardization of technical terminology possible. Uniformity and standardization are imperatives of terminology. This uniformity is absolutely necessary in terms of terminologies that develop through translation in any language, since the use of different technical substitutes for a technical term in the source language in the target language may confuse the readers. There will be confusion or chaos in translation and chaos in the field of terminology.

The use of such type of technical terms hinders the process of standardizing the terminology. There is no doubt that due to uniformity in usage over the years, many technical words have taken standard form in Hindi language today. For example, the Hindi words for 'solar power', 'electricity', 'devaluation', 'project', 'environment', 'pollution', 'plant', 'campus', 'space', 'satellite', 'university', 'commission' etc. may be seen. But more terminology is yet to be standardised. The lack of uniformity is reflected in the practice of technical synonyms in some technical terms. That is, the use of the same synonym in Hindi for two or more words in English.

There is no doubt that uniformity in the use of technical terms, where standardization of terminology becomes possible, there comes ease in writing and translation work. In fact, uniformity in the use of technical terms is essential for technical terminology.

8.5.14 Aiding for Development of Style of Technical Writing

To express the concept of science and technology, only popular language is used. It does not have any separate language of its own. The author of this type of material does not require any new or different language. But on the other hand, he moves on establishing harmony in the linguistic form of expression and the text. Its style of expression bears the influence of characteristic tendencies and its most important component is technical terminology. There is so much information hidden in technical words that if it has to be explained, it will be revealed in many pages. While the inclusion of technical terms tightens the syntax and the language appears mature. Uniformity in the use of technical words is essential for technical terminology, while their continuous use develops a specific technical style form in a particular language.

In the writing and translation of scientific-technology literature, there is a need for such technical vocabulary, which has full capacity to reveal ideas and expressions and has the ability of all kinds of expression. In this, scientific-technical concepts and principles are expressed through accurate words, which reveal only one meaning correctly. In terms of clarity and accuracy, the thoughts of science-technologists should be completely clarified through terminology. These words require a special type of expression for their use. In order to maintain the factuality and realism of science, the creators of science-technology avoid contextless and misleading expressions. Due to this, professional maturity and rigor are included in foreign language, on the basis of which the specific style of expression is exposed. It becomes the condensation of knowledge through a specific technical style and becomes the hallmark of the language. Due to this, where the language is enriched and expanded, a specific technical style form also develops in it.

8.6 Let Us Sum Up

After going through this unit, it must have become clear that technical terminologies are not related to general linguistic practice but are related to different fields of knowledge. It is the use of a word in a specific-certain sense that makes it definitional. They express specific meaning in a particular subject and this specialty of theirs brings variation in their form. Clarity of meaning, subjectivity or conceptual conformity, semantic stereotype, semantic subtlety, semantic difference standardization of terminology with uniformity in use, helpful in the development of technical style etc. Keeping these in mind, appropriate perspective can be seen and understood in right direction. Although there is no difference between common and technical words from the point of view of linguistic structure, but at the level of semantic structure, it establishes a difference between both types of words. These are of full-definition and semi-definitional form in themselves. Hence they are classified into semi-technical and technical terms.

After knowing the concept of technical terminologies, it is but natural to ask the question that what is the process of their development? How has been the journey of their formation in India and who has played a role in it? In the context of all these, we will consider the next unit 'Development and Standardization of Technical Terminology'.

8.7 Exercises

1. In the light of different views of scholars, Explain the etymological meaning of 'Technical Term'.
2. Classify the 'Technical Terms'.
3. What are the similarities and disimilarities in general and technical terms at the structural level and semantic level?
4. Explain the main features of the technical terminology.

8.8 Suggested Readings

- Gupta, Gargi, 1992. Paribhashik Shabdavali Ki Vikas-Yatra, Bhartiya Anuvad Parishad, New Delhi.
- Tiwari, B.N., 1978. Paribhashik Shabdavali : Kuchh Samasyen, Shabdkar , Delhi.
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- Sharma, Gopal, 1968. Samajik Vigyanon Ki Paribhashik Shabdavali Ka Sameekshaatmak Adhyayan, S. Chand & Co., Delhi.
- Khemani, Anand Prakash and Ved Prakash (eds.), 1964. Anuvad Kala : Kuchh Vichar, S. Chand & Co., Delhi.
- Tandon, P.C. Sethi, H.K., 1998. Anuvad Ke Vividh Aayam, Takshashila Prakashan, New Delhi.
- Nagendra (ed.), 1993. Anuvad Vigyan : Siddhant Evam Anuprayog, Directorate of Hindi Medium Implementation, University of Delhi, Delhi.
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- Jhalte, Dangal, 2002. Prayojanmoolak Hindi : Siddhant Aur Prayog, Vani Prakashan, New Delhi.
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UNIT 9 DEVELOPMENT AND STANDARDIZATION OF TECHNICAL TERMINOLOGY

Structure

- 9.0 Objectives
- 9.1 Introduction
- 9.2 Process of Development of Technical Terminology
 - 9.2.1 Natural Development-Process
 - 9.2.2 Planned Development-Process
 - 9.2.3 Difference between Natural and Planned Development Process
- 9.3 Tradition of Making Technical Terminology in India
 - 9.3.1 Pre-Independence
 - 9.3.2 After Independence
- 9.4 Standardization of Terminology: Efforts and Problems
- 9.5 Let Us Sum Up
- 9.6 Exercises
- 9.7 Suggested Readings

9.0. Objectives

The objective of this unit is:

- to introduce the historical background of technical terminologies;
- underline the importance of natural development process in technical terminology-making;
- to make aware of individual and institutional efforts made in technical terminology-making;
- to acquaint with the contribution of the Commission for Scientific and Technical Terminology in the making of technical terminologies; and
- underlining the importance of standardizing technical terminology.

9.1. Introduction

In the context of translation, the place of technical terminology can be considered central, because the authenticity of scientific translation depends on the selection of proper technical terminology. In the present unit, it is being told that how Hindi's technical terminology has developed and what kind of development processes it has gone through? Two features of the development of technical terminology are particularly noteworthy - (1) 'natural development-process'; and (2) 'planned development-process'. Scientific writing is included in natural development process and terminology-making is included in planned development process.

Individual efforts have also been made in the development of Hindi's technical terminology and institutional efforts have also been made. Therefore, both these types of efforts are

necessarily included in the discussion of the development of technical terminology. In the light of this discussion, the development of technical terminologies is further highlighted. While considering this, the efforts made before and after independence of India related to technical terminology-making are being discussed. The efforts made to standardize the technical terminologies and the problems experienced in this regard are discussed at the end of the unit. Let us first consider the process of development of terminologies.

9.2 Technical Terminology Development Process

Unit-8, you must have realized that the words used in any branch of knowledge i.e. in different disciplines with special meaning are called ‘Technical Term’ and such terminologies are called ‘Terminology’. Overall it is called ‘Technical Terminological’. It is natural that different disciplines have their own technical terms and sometimes the same word is used in different disciplines as technical terms with different meanings. In order to maintain the clarity of the subject and the uniformity of meaning, the use of technical words is mandatory in the literature composed in any discipline. This has been happening naturally since ancient times. So if it is happening naturally, then having a technical terminology is not a special thing in itself.

When we consider this question in the context of Indian languages and translation, our attention is first drawn to the technical terminology of science and technology. The term science and technology is related to the progress made in the modern period, which is mainly based on science and technology. That’s why the department entrusted with the task of preparing technical terminology by the Government of India has been named ‘Commission for Scientific and Technical Terminology’. Except for the technical terminology of law, this Commission works for the development of all other types of technical terms, including the terminology of agriculture, medicine, social science and humanities. All these types of terminologies are briefly called ‘Technical Terminology’ and the terminologies of science and technology are called ‘Scientific Terminology’. In other words, in a more comprehensive sense, all types of terminologies are called ‘technical terms’.

While considering the development-journey and development-process of Hindi’s technical terminology, first of all, our attention goes towards the fact that in modern times, western countries have played a leading role in progress based on science and technology. In this matter, our country has largely followed the West. Scientific literature has been continuously being created in the languages of western countries and scientific terminology has been formed naturally in those languages. Obviously, in such a situation the problem of making of scientific terminology does not arise. In this situation of natural development process, terminologies keep on forming automatically. But the condition of all Indian languages including Hindi has been different from the languages of western countries, because the scientific literature of western countries has reached us through the British rulers and their language English and gradually English is dominating here. It is natural that in such a situation, the need for coining technical terms to translate the vast scientific literature available in English had arisen from the very beginning, which is still continuing.

The ironic situation in the case of Indian languages is that despite having a rich classical tradition in Sanskrit, our languages have been almost unable to keep up with the times in terms of modern scientific terminology. One reason for this is that the tradition of writing scientific literature in our own languages has not developed. If the tradition of writing scientific literature had developed in our languages, then the technical terminology would have also been created easily.

The second reason related to this is that till the 19th century, the development of science in Europe, India remained almost unfamiliar with it. We were introduced to the discoveries and inventions of many scientists like Newton, Copernicus, Boyle, Darwin etc. very late. We did not know anything about the progress made in western countries in the fields of physics, chemistry, crafts, medicine.

Apart from science and technology, our current law and order system was also established by the British rulers and the terminology of English language mainly and Persian language secondary runs in it. Even while translating all the Acts, Penal Code etc., it is natural to pay attention to the technical terminologies of the law and the special style of the legal field.

The process of development of technical terminology in Hindi can be understood in this background. Keeping in mind the above background, the development process of Hindi's technical terminology is being presented here by dividing it into two parts - natural development process; and planned development process.

9.2.1 Natural Development Process

Natural development of technical terminology goes hand in hand with original writing and research. This happens when a new concept, device etc. is named by its originator or inventor, scientist or technical expert himself. In this way, the technical term used by a scientist or expert gets its roots in the beginning itself and it gets acceptance on its own through use. In this way, after getting approval, the terminologies used for new concepts, tools etc. find a place in those dictionaries. That is, the new technical term is first used and later finds a place in the dictionary. Prof. S.B. Singh, in his Hindi article 'Paribhashik Shabdavali aur Anuvad Prakriya' (Technical Terminology and Translation Process) published in 'Anuvad Shatak' (Part 1), while revealing this natural development process of terminology, has written that 'technical words develop in situations where new concepts are introduced by the person, who gave names them. These names or words reach users through articles, books and lectures. For some time they undergo a kind of probation period in the laboratory of the society, and if they remain in vogue during this period, they gain social acceptance and become part of the language and lexicon. The words which cannot survive in use during this period automatically disappear.' (p.165) This is the easiest method of construction and circulation of technical terms. The terms 'Glasnost' and 'Perestroika', used by the then President of the Soviet Union, Gorbachev, became popular in the world through the medium of communication in their specific context. This is a direct proof of the natural development process of technical terminology.

While considering the history of development of scientific terminology in Hindi, it is natural to turn attention towards scientific writing as a natural development process of terminology-

making. In other words, the natural development process of technical terminology-making manifests itself in the form of original writing. Some progress was made in this direction in the end of the nineteenth century and in the beginning of twentieth century, which has been mentioned by Srinarayan Chaturvedi in his book 'Adhunik Hindi Sahitya Ka Aadikaal' (Ancient period of Modern Hindi Literature). He has given a list of such books which were published between 1857-1908. This list given by him is also partially quoted by Uma Bhatt in her article 'Akshansh Darpan Ki Paribhashik Shabdawali' (Bhatt 2006, p.224). Apart from these, some such information has been given in the 'Foreword' (especially till pages 40-45) of the 'Manak Angrezi-Hindi Shabdkosh' (Standard English-Hindi dictionary) by Satyaprakash and Balbhadra Prasad Mishra (1971) and published by Hindi Sahitya Sammelan, Prayag (UP) of India.

It is clear that scientific writing had started in Hindi only in the nineteenth century and books on various subjects like Mathematics, Physics, Chemistry, Numerology, Engineering Science, Surveying, Astronomy, Geology, Kinetics, Zoology, Veterinary etc. were published for the students. That's why we can say that in the nineteenth century, the development of technical terminology in Hindi was happening naturally. This technical terminology was based on Sanskrit. Some books also had the influence of Persian, which was more prevalent than Hindi in the field of administration and education during that period. To strengthen Hindi in the field of science, books on various scientific subjects were written. But this type of writing has been called experiment or effort, which could not become a part of any well-established writing tradition.

The natural process of development of technical terminologies has continued in the twentieth century and beyond. The actual use of Hindi in the field of education kept getting limited. That's why expected progress could not be made even in original scientific writing. Overall, it has to be accepted that the process of natural development of technical terminology which started in the nineteenth century and in the early years of the twentieth century, has been continuously hindered.

9.2.2 Planned Development Process

The planned development process of technical terminology is a part of language planning. You have read in section 9.2.1 of this unit that the natural development of technical terminologies goes hand in hand with original writings and research and this happens when a new concept, device etc. is named by its originator or inventor/scientist or it is done by the technical expert himself. Whereas the planned development process is different from this. Under this, planned efforts have to be made to use the technical terms created and used in another language in their own language. Expressing views on this planned process of development of terminology, Prof. Mahendra Singh Rana says that 'planned development process means trying to develop new language-forms in one's own language on the basis of technical forms of native language used by some other person or institution. This effort is not as natural as the original/source language, but it is a kind of artificiality because it is not a natural development process of the adopted language. This type of development has to be planned so that the development of new language-forms can be given the right direction.' (p.366)

If a country lags behind in developing its natural terminology, then it has to follow the path of planned development process. You have read in section 9.2.1 that there was some progress in our country in the late nineteenth and early twentieth century, but it was also hindered continuously. That's why no long tradition of natural development of technical terminology can be said. Due to lagging behind in developing technical terminologies, the path of planned development process was adopted in India in this context. The historical development of technical terminology, which is being shown in the next section 9.3 of this unit, is actually a part of the planned development process of the development of technical terminology in India.

9.2.3 Difference between Natural and Planned Development Process

The biggest difference between the planned development-process and the natural development-process is that firstly, technical terms are created mainly through the translation method, their dictionaries and vocabularies are made and then an attempt is made to use them. Their acceptance or disapproval is known through experimentation and then there is a need for amendment in such employed terminologies. The main feature or say the biggest drawback of the planned development process is that there is an intermediate language between the scientific concept and the technical term, and technical terms are formed on the basis of this intermediate language. That's why such technical terms are sometimes not even precise and also have artificiality in them. But it also has to be accepted that if a country has lagged behind in developing its own terminology, then it has to follow the path of planned development process. The situation of our country is also like this.

9.3 Tradition of Making Technical Terminology in India

On considering the tradition of making Hindi's technical terminology, we find that efforts to create technical words in Hindi had started about one and a half to two hundred years ago. These efforts have been made at both private and official/government levels. Apart from this, efforts have also been made at the government level after independence in this direction. Let us consider the tradition of technical terminology making in the context of these efforts.

9.3.1 Pre-independence Period

Before the arrival of the British, the history of creation of scientific terminology of Hindi is considered to have started during the reign of Shivaji Maharaj (1664-1680). On the request of Shivaji Maharaj, Raghunath Pant did the work of making technical terms. A compilation of technical terms was also prepared by Karanpur and Dalpati Rai. Shivaji Maharaj had also prepared 'Rajya Vyavar Kosh' in Marathi and an encyclopaedia of Marathi words.

Work on scientific terminologies in Indian languages had begun from the beginning of the nineteenth century. An overview of this is given (especially on pages 40-45) in the introduction to the 'Manak Angrezi-Hindi Kosh' (Standard English-Hindi dictionary) - editors Satyaprakash and Balbhadra Prasad Mishra, Hindi Sahitya Sammelan, Prayag, 1971. On the basis of the same, a list of some dictionaries published in the first half of the nineteenth century is being given :

- Dictionary of Mohammedan Law, Bengal Revenue Terms, Hindoo and Other Words, Used in East Indies, with Applications. This dictionary was published from London in 1805. Roman and Arabic scripts were used in this.
- ‘An English and Hindustani Naval Dictionary of Technical Terms and Sea-Phrases’. Joseph Taylor was the compiler of this dictionary.
- ‘A Dictionary of Commercial Terms, with Their Synonyms in Various Languages’. Alexander Faulkner was the editor of this dictionary which is published in 1850.
- ‘Kachahari Technicalities and Vocabulary of Law Terms’. Patrick Carnegie was the editor of this dictionary (published in 1853).
- ‘English Hindustani Law and Commercial Dictionary of Words and Phrases used in Civil and Criminal Revenue and Commercial Affairs’. - The dictionary, published in 1858, was edited by S.W. Phelan.
- A Vocabulary of English-Hindustani for the Use of Military Students.

During the British rule, a committee was constituted in 1871 for the creation of scientific terminology. This Committee was entrusted with the task of laying down the principles of scientific and legal terminology. A prominent member of this Committee was Rajendralal Mitra, who published the decisions of the Committee in 1877. ‘A Scheme for the Rendering of European Scientific Terminology into the Vernaculars of India’ titled this record of his can be considered as the first important step towards the making of technical terminology in Indian languages. As it is also clear from the title of this record, modern terminology refers to European Scientific Terminology.

From the end of the nineteenth century, the education of science started spreading in the educational institutions of India and then the need for such dictionaries increased even more. Work had started in the direction of making an English-Bangla dictionary by the Bangiya Sahitya Parishad and an English-Marathi dictionary by the Bombay Presidency.

Kashi Nagari Pracharini Sabha started the task of preparing a glossary of seven subjects in the initial years of its establishment (16 July 1893). Its editors were - Madhav Rao Sapre, Mahavir Prasad Dwivedi, Sudhakar Dwivedi, Shyam Sundardas and Thakur Prasad Khatri. The Kashi Nagari Pracharini Sabha published dictionaries of Mathematics (Editor Shyam Sunderdas) in 1901, Philosophy (Mahavir Prasad Dwivedi) and Physics (Editor Thakur Prasad Khatri) in 1902. Later, a complete dictionary including glossaries of geography, chemistry and other subjects was also published by the Sabha. In the year 1912, Thakur Prasad Khatri’s merchandise stock dictionary was published. The Nagari Pracharini Sabha also published the agricultural dictionary of Hindi which was prepared by Prof. Pyarelal Garg.

Due to these efforts, dictionary-making gained momentum and many more dictionaries were published. Prayag-based Vigyan Parishad (established year 1913) published Scientific Terminology in 1930. Sukh Sampat Rai Bhandari started the work of a comprehensive dictionary in 1926 which became *The Twentieth Century English-Hindi Dictionary*

(published in six volumes) under the name. Later, Bhartiya Hindi Parishad published two parts of 'English-Hindi Scientific Dictionary' (Editor Satyaprakash and Co-Editor Nihalkaran Sethi, Phooldev Sahay Verma, Brajmohan, Mahavir Prasad Srivastava etc.). This work remained incomplete, because later the central government of India started this work on a large scale. Nihalkaran Sethi later published Physics's Dictionary (Prantiya Hindi Sahitya Sammelan, Uttar Pradesh) and Brajmohan published Mathematical Dictionary (Chaukhamba Sanskrit Series, Varanasi, 1954) on the basis of his work started in the Bhartiya Hindi Parishad.

Following is a list of few dictionaries published during the middle period of the twentieth century :

- 'Pratyakshshaarir Kosh', Hindi Sahitya Sammelan, Prayag, 1951, edited by Rahul Sankrityayan and A.C. Sengupta.
- 'Bhutattvavigyan Kosh', Hindi Sahitya Sammelan, Prayag, 1953.
- 'Chikitsa Vigyan Kosh', Hindi Sahitya Sammelan, Prayag, 1955.
- Brajkishore Malviya's 'Jeevarasayan Kosh', Hindi Sahitya Sammelan, Prayag, Samvat 2009 (1952).
- 'Vaidyut Shabdavali' by Keshav Prasad Mishra.

Around this period, Maheshwar Singh Sood's Zoology dictionary was also published. 'A Technical-Hindi Glossary' by Father Kamil Bulke was published in 1955.

In the first half of the 20th century, many glossaries of Humanities-Social Sciences were also published, some of which are named as follows: 'Vyaparik Kosh' - Ed. Brajvallabh, 1908; Rajneeti Shabdavali - Bhagwandas Kela, 1927; Arthshastra Shabdavali - Bhagwandas Kela, 1932; Arthshastra Shabdavali (Reprinted) - Bhagwandas Kela, Dayashankar Dubey, 1949 etc.

Some of the major glossaries on governance and law published in the first half of the 20th century are: 'Sayajirao Shasankalpataru' - published by the princely state of Baroda in 1932; 'Shaashan Sabdavali' - Harihar Niwas Dwivedi, 1940; 'Nyayalaya Shabdkosh' - Hindi Sabha, Sitapur, 1948; 'Nyayalaya Shabd Sangrah' - Jagdish Sharan Agarwal, Bareilly, 1948; 'Shaashan Shabdkosh' - Rahul Sankrityayan, Vidyanivas Mishra, Prabhakar Machwe, Hindi Sahitya Sammelan, Samvat 2005 (year 1948); 'Aarakshik (Police) Shabdavali' - Ramchandra Verma and Gopal Chandra Singh, Samvat 2005 (1948) etc.

Dr. Raghuveer's name is particularly notable in the making of a dictionary related to technical terminology. Dr. Raghuveer believed that Sanskrit roots and prefixes and suffixes should be made the basis for making technical terminology. He said that lakhs of words can be made by adding 20 prefixes and 80 suffixes to the 520 roots of Sanskrit.

With the help of various scholars, Dr. Raghuveer created dictionary '*A Comprehensive English-Hindi Dictionary of Governmental and Educational Words and Phrases*'. He started this work in 1931 and was published in 1943. Later a revised edition of the same dictionary was published in 1955. In 1950, the Anglo-Hindi dictionary of technical terms was published under the name *Consolidated Great Indian Dictionary of Technical Terms*, which is Dr.

Raghuveer's most important publication. The lexicon work of Dr. Raghuveer was done under the aegis of the organization 'Saraswati Vihar' established by him. 'Saraswati Vihar' was established in Lahore (in present-day Pakistan), which had to be shifted first to Nagpur and then to Delhi after the partition of India. This dictionary work of Dr. Raghuveer was extraordinary in itself, but it was heavily criticized for being completely dependent on Sanskrit. Critics included experts as well as political people. Therefore, Dr. Raghuveer's contribution in the development of the technical terminology could not be properly assessed. The words 'Doordarshan' for television, 'Doorbhash' for telephone which have come into vogue these days are the gift of Dr. Raghuveer.

9.3.2 After Independence

After the attainment of independence, the attention of the Government of India also went towards technical terminology-making. One of the main motivations behind this must have been that Hindi had enough support during the freedom movement and hence Hindi should be developed as the language of science.

Realizing the need for the creation of scientific and technical terminology in Indian languages, the Government of India established the 'Board of Scientific Terminology' in the year 1950. After changing the name many times from time to time, this government department, which is working on terminology-making, is now known as 'Commission for Scientific and Technical Terminology', which was formally established on 1 October 1961. Along with other tasks, the Commission was entrusted with the responsibility of creating scientific and technical terms in Hindi and other Indian languages. The Commission is reputed as the apex organization for compilation, preparation, coordination, training etc. related to technical terminology of Hindi.

The Commission first published the Administrative Glossary and Designation Glossary in 1955 as a provisional version. Later, in 1962, its revised/enhanced version came out. Since then, many revised/improved versions of it have been published till now. Now this 'Glossary of Administrative Terms' available under the name. Apart from this, the Commission has published many subject-wise glossaries, dictionary of definitions etc. related to different branches of knowledge to prepare standard vocabulary. The Commission has also published glossaries. In 1973, the Commission published the Comprehensive Glossary of Terms in the Sciences and Humanities, which was edited by compiling and coordinating the glossaries published till then. Today the Commission has developed about five lakh technical terms of different subject areas.

9.4 Standardization of Terminology: Attempts and Problems

Standardization of terminologies can also be said to be a part of vocabulary-making. As a result of institutional and personal efforts, the technical terminology which has been formed in Hindi and is being formed continuously, lacks uniformity at some places and more than one word is used for the same concept, while the meaning of the technical terms is different. It is not only desirable to have clarity and uniformity, it is also essential. In other words, this is called standardization of technical terminologies. Experts have paid enough attention to

this problem. From time to time, the Department of Official Language of the Central Government issues an order in this regard that the technical terminology created by the 'Commission for Scientific and Technical Terminology' should be used in all types of scientific literature considering it as standard terminology. Even the Supreme Court has said the same thing in one of its judgments. The order passed by the Court is as follows:

'It is clear from the Resolution (under which the Commission was set up) that the object of setting up the Commission was to evolve a uniform technical terminology for Hindi and other Indian languages. That uniformity is necessary in the use of technical terms cannot be doubted....Therefore as long as the Commission operates, it is directed that the technical terminology evolved by the Commission be adopted in connection with the text-books being produced by the NCERT and other Such bodies under the Union of India.

(Glossary of Administrative Terms, 'Preface', CSTT, 2008)

The above mentioned order of the Supreme Court has special significance in view of ending anarchy in the field of technical terminology and using uniform standard terminologies in all fields of knowledge. But the reality is different from this. That is why standardization of technical terminology is a separate problem in itself. Efforts for its standardization are also being made continuously.

Standardization of technical terminology is also done at the international level. This work is done by UNESCO, International Standards Organization (ISO) and many other organizations.

There are two stages of this standardization – first the meaning of a concept is determined by description and definition and then it is given a name. Similarly invention happens first and its naming later. It is not always possible that the name thus determined to be completely accurate. But it is very important to have only one accepted name for the same concept. This is the main feature of standardization of technical terminology.

The problem of standardization of terminologies can be considered mainly as two aspects :

1. One aspect is that for the same technical term in English, there may be more than one equivalent in Hindi with the same meaning. The standard form of such words is not yet settled.
2. The second aspect is the free use of any equivalent word in Hindi for similar concepts in English. For example, these words coming under defense terminology can be taken - assault, attack, charge, invasion. The CSTT has set separate Hindi equivalents for them. Another example can be taken of the physics words motion, speed, velocity. The Commission has set separate equivalents for each of them.

In this way, the technical terminology is being standardized by the Commission for Scientific and Technical Terminology. It is necessary that this terminology should get more and more acceptance and its use should continue. Only then can there be stability in this terminology. In short, these are the main problems of standardization of terminologies.

9.5 Let Us Sum Up

Technical Terminology is developed in two ways - (1) by natural development process; and (2) by planned development process. Scientific writing is included in natural development process and terminology-making is included in planned development process. Scientific literature has been continuously being created in the languages of western countries and scientific vocabulary has been formed naturally in those languages. In such a situation the problem of scientific terminology-making does not arise. The ironic situation in the case of Indian languages is that despite having a rich classical tradition in Sanskrit, our languages have been almost unable to keep up with the times in terms of modern scientific terminology. The main reason for this is that the tradition of writing scientific literature in our own languages has not developed. By the way, scientific writing in Hindi started in the nineteenth century as a natural development process.

As a planned development process, the work of making technical terminology started in the first half of the 20th century and it gained momentum later. Initially, the Nagari Pracharini Sabha (Kashi) and the Hindi Sahitya Sammelan (Prayag) took up this task. Individually, Sukh Sampat Rai Bhandari and Dr. Raghuveer contributed heavily to the terminology-making. In the second half of the twentieth century, the 'Commission for Scientific and Technical Terminology' was established by the Government of India and since then this work started to be done on a large scale. The attention of CSTT has also gone towards standardization of terminologies.

9.6 Exercises

1. Throw light on the need for the technical terminology-making in Hindi and other Indian languages from the historical point of view.
2. Explain the meaning and difference between natural and planned development process of technical terminology.
3. What was the history of the development of scientific terminology of Hindi before the arrival of the British?
4. Give a brief introduction to the contribution of Nagari Pracharini Sabha (Kashi) in the development of terminologies and publication of dictionaries.
5. Briefly introduce Dr. Raghuveer's views on technical terminology.
6. Present a brief history of the Commission for Scientific and Technical Terminology.
7. What is meant by standardization of terminologies and what is the main feature of such standardization?

9.7 Suggested Readings

- Rana, Mahendra Singh 2003. Prayojanmoolak Hindi Ke Adhunik Aayam', Harsha Prakashan , Agra.

- Vigyan Garima Sindhu 2000 : Vocabulary Special Issue, Issue 32, CSTT, Government of India.
- Mishra, Satyaprakash and Balbhadra Prasad 1971. Maanak Angrezi-Hindi Kosh, Hindi Sahitya Sammelan, Prayag.
- Gupta, Neeta (Ed.) et.al., 2001. Anuvad Shatak (Vol.1), New Delhi, Bhartiya Anuvad Parishad.

