

## **Block 4**

### **Technical Terminology and Translation**

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**Unit 10**

**Technical Terminology : Schools, Principles and Strategies**

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**Unit 11**

**Technical Terminology and Translation**

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**Unit 12**

**Sources and Challenges of Collecting Technical Terminologies**

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## Introduction to Block 4

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Technical Terminology has its own special importance and place in writing literature related to any field of knowledge. Translation is a medium to introduce knowledge of literature written by different language-society. During translation, equivalent terminology has to be used. These equivalent terms are available to us in technical terminologies. But for this the translator needs to know the technical terms, only then he can use the exact equivalent terms. In this context, an understanding of the determination of technical terminologies, principles and techniques of their formation helps translators and learners of translation studies. Therefore, block 4 has been kept on ‘**Technical Terminology and translation**’. This is the last block of this course.

This block also has three units.

Unit 10 focuses on ‘**Technical Terminology : Schools, Principles and Strategies**’. In India Puritan, Hindustani (Indianist), Internationalist and populist ideologies related to the formation of technical terminology have been prevalent. Along with introducing these schools/ideologies/approaches in the unit, information has also been given about the principles and strategies/techniques of making scientific and technical terminology. At the same time, the need for an Pan-Indian terminology, the method of its formation and the general aspects of identification have also been highlighted in this unit.

Unit 11 title is ‘**Technical Terminology and Translation**’. In this unit, various aspects related to technical terminology and translation has been highlighted. In this context, the need for technical terminologies in translation has been clarified and technical terms as means of translation have been introduced. Along with this, the selection-process and relevance of technical terminology in translation has been explained. The question of comfortability and usage of technical terminology in translation is considered and the complexities and resolutions to the complexity of technical terminological use in the context of translation are highlighted.

Unit 12 is ‘**Sources and Challenges of Collecting Technical Terminologies**’. In this unit, challenges of collecting technical terminologies of various fields of knowledge have been discussed. Sources of compilation and editing of technical terminologies pertaining to administration, law, media, humanities and social sciences, science-technology, banking-insurance commerce etc. have also been discussed in detail.

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## UNIT 10    TECHNICAL TERMINOLOGY : SCHOOLS, PRINCIPLES AND STRATEGIES

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### Structure

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### 10.0 Objectives

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After going through this unit you should be able to :

- know the different Schools or approaches related to technical terminologies;
- become familiar with the principles of making of scientific and technical terminology;
- understand the various strategies/techniques for making a technical terminology; and
- will be able to get acquainted with the Pan-Indian Terminology.

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### 10.1 Introduction

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In the previous unit you have been introduced to the development of technical terminologies. This development is also related to the process of terminology development and also to the tradition of vocabulary making. Terminology-development has two characteristics - natural development-process; and planned development-process. Natural development-process includes terminologies developed due to original writing and planned development-process includes terminology making through language planning. With the tradition of terminology

making, you have been informed about the efforts made in this direction in India. Along with this, the efforts and problems of their standardization have also been informed.

The tradition of making technical terminologies informs us about the efforts made in this direction in India. This is the basis of their development, some assumptions have been working. In fact, these ideologies/approaches have played an important role in the development of technical terminology. It can be said that the edifice of terminology rests on the foundation of ideologies. After going through this unit it will become clear to you that the basic approach to the making technical terminologies is actually syncretistic. Syncretistic perspective is the foundation of Indian culture. The terminology developed today also reflects this coordination. The influence of Puritanist, Indianist, Internationalist and Populist ideologies is visible in the making of this approach. When you read these ideologies carefully, it will be understood that the principles of terminology formed by the Commission for Scientific and Technical Terminology (CSTT) are basically a coordinated effort of these approaches. Apart from this, the efforts made by the Commission in the direction of making a Pan-Indian terminology have also been introduced in this unit. Various techniques of technical terminology making have also been introduced.

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## **10.2 Schools (Approaches) of Technical Terminology**

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In the development of technical terminology after independence, you have become familiar with the difference of opinion obtained in the efforts made at individual and institutional level in the field of making technical terms in India. The then extraordinary scenario of India in the Hindi language-speaking region is reason for this difference of opinion. The general public did not know the English language and the educated class was familiar with the English language and scientific terms. Khadi Boli (one dialect of Hindi) had maximum use of Sanskrit words and people in Hindi-speaking regions were familiar with Hindi-Urdu. In common language-practice, the use of the language-form between Hindi-Urdu i.e. '*Hindustani*' was more. It was in this diverse landscape that the Puritanist, Indianist (Hindustaniist), Anglicist and Synergist ideologies or approaches emerged in relation to the terminologies. These have been given the name of 'Schools of Technical Terminology'. The discussion regarding these terminology-schools is as follows:

### **10.2.1 Puritan Approach**

Puritan ideology related to terminology-making is also designated by many other names like 'Revivalist', 'Nationalist', 'Sanskritist', 'Ancientist' ideology etc. People of this class are in favour of taking all the terminology of Indian languages from Sanskrit language. People who believe in this ideology believe that Sanskrit has immense potential for word-formation, so there is no need to borrow words from any other sources. They want to take as many technical words as possible from the ancient Sanskrit literature, but for modern technical words, for which Sanskrit equivalents are not available, by combining two or more Sanskrit words, or by adding prefix-suffix etc. to the word or by creating new root words if necessary, by adding suffix-prefixes to them, they are in favour of creating new similar words (Sanskritized technical terminology). Dr. Raghuveer pioneered this approach. He was a strong supporter of sanskritizing the Indian vocabulary. Apart from them, the devotees of

ancient Indian culture have also been supportive of this ideology, who were influenced by the Arya Samaji ideology. Many other scholars of this category have also been their supporters.

This revivalist approach is called so because the people of this ideology saved the words available in the ancient Indian scriptures. In the process of creating new similar words equivalent to the scientific-technical words of English, the ancient grammatical method was adopted, making the grammar of the ancient language Sanskrit a means.

Prominent supporter of Puritanism Dr. Raghuveer insisted on keeping his language free from the influence of foreign words. Dr. Gargi Gupta has written in the editorial of the book '*Paribhashik Shabdavali Ki Vikas-Yatra*' (Journey of Development of Technical Terminology) that 'Dr. Raghuveer used to say that word and thought are inseparable, so when the thought is new, then there must be a need for a new word for it. But these new words can be transparent as well as colourful. Those languages which are foreign and whose roots do not come from our soil, their words are borrowed words for us and hence are tarnished like coloured glass. One has to look beyond them. English words are such borrowed and hazy words for us, because they have their roots in Greek and Latin languages. On the contrary, Sanskrit is our own language. It has its roots in almost all Indian languages (except Urdu and to some extent Tamil). So the words made on its basis will be clear and transparent to us. If one has a little knowledge of Sanskrit grammar, then the meaning of new words will become easy and understandable for him. It is only necessary to understand the method of word formation once.' (p. 3-4)

Dr. Raghuveer used to accept transparency in the words of Hindi as compared to any other language of the world. He said that Sanskrit language is an infinite source of word-formation, because with the help of its 520 root words, 20 prefixes and 80 suffixes, millions of words can be made in Hindi. He believed that with their proper use, a systematic composition of technical terms can be made.

In the field of making technical terms in Hindi at the individual level, Dr. Raghuveer's terminology-making work is remarkable. Based on the rules of Sanskrit grammar and using the fertility of words, Dr. Raghuveer created new words for almost every technical term and renovated the old ones. He prepared 'A Comprehensive English-Hindi Dictionary' (Angal-Bhartiya Mahakosh) in four parts, in which each word's synonym is Devanagari, Bangla, Kannada and also given in Tamil scripts. Economics Dictionary, Commerce Dictionary, Logic Dictionary, Statistics Dictionary, Scientific Dictionary, Pakshinamavali, Mammalia, Pharmacology, Mantralaya kosha, Vidhi kosha, Vaniki Krishi Kosh, English-Hindi Vratkosh etc. have been created. By the time of his death, he had created five lakh technical words, while his desire was to make Hindi equivalents of lakhs of English words. Based on his purist approach, Dr. Raghuveer, in his famous dictionary 'A Comprehensive English-Hindi Dictionary' published in 1955, has given antonyms of English words and has explained in detail the principles of construction of technical terminology. The main features of word formation are as follows:

1. Instead of taking words from the English language, adopting the appropriate vocabulary existing in the Indian tradition in the form of texts composed in languages like Vedic Sanskrit, Classic Sanskrit and Pali etc. For example taking the word 'dwaradeya' from 'Rajatarangini' for 'octoroi'. Similarly, for 'tehsil' Ashoka's inscription for 'mukti', for 'umpire' Mahabharata's 'pramana purush', for 'auction' 'koshvikraya' from Kautilya's *Arthashastra*, for 'earnest money' Yajnavalkya's 'Satyankara' taking 'vacation' from *Manusmriti* for 'will', Panini's 'upagya' for 'invention' etc.
2. Following the Indian tradition, Dr. Raghuveer coined new words for the technical terms of the English language in place of the current language tools (i.e. prevalent native-foreign words). For example, for 'fountain pen', the word 'Masipath' was created.
3. For the concepts (or objects) for which there is a lack of words in the classical tradition, according to the rules of Sanskrit grammar, to create new words from prefix-suffix and root words. For example, Law+full = 'Vidhi+vat.'
4. Dr. Raghuveer also created new suffixes when necessary. For example, from the word 'dhaatu', he made the suffix 'aatu' and on the basis of that, the words 'Mishratu' (Alloy), 'Charnatu' (Calcium), 'Tejatu' (Radium), 'Haryatu' (Barium), 'Mahatu' (Platinum) etc. were developed. Similarly, for the names of gases, Dr. Raghuveer made the suffix 'Aati' from 'Vati' and on the basis of that created the words 'Bhuyati' (Nitrogen), 'Shithirati' (Neon), 'Kotyati' (Xenon) etc.

### 10.2.2 Indianist Ideology

In addition to the supporters of the purist approach in the field of technical terminology, there was another section, which was in favour of experimentalism in language. This class believed in using the words of 'Hindustani Bhasha', a combination of Hindi-Urdu in daily use, through which they wanted to propagate the composite culture of the country. It is also known as 'experimentalist ideology'. The proponents of this view believed that the terminology should also be mixed according to our mixed culture. For this reason, this ideology believed in the use of Sanskrit, Arabic, Persian, Turkish, English and the making of terminologies with the help of indigenous elements.

Dr. Jafar Hasan and Pt. Sundarlal were the promoters of Indianist/Hindustani ideology. Dr. Hasan was associated with the Osmania University in Hyderabad and Pt. Sunderlal associated with the Hindustani Culture Society of Allahabad.

Technical Terminologies developed by them representing this ideology. 'Hindi Terms of Sociology' glossary was published in 1950-52 from Osmania University and the glossary entitled 'Hindustani Ke Liye Shabdayati Asul' published in 1954 from Hindustani Culture Society, Allahabad. These terminologies show about the words and principles created by them. Although their aim was to develop simple words by bringing the technical terms closer to the colloquial language and grammar, but there was more or less difference in the ideologies of these two institutions.

Urdu language was the medium of instruction in Osmania University. There, special care was taken to create subject-specific terminology molded in the grammatical structure of Urdu. Many words were created by adding 'Na', 'Iyana' suffixes to Tadbhava and foreign words by the method available in Urdu grammar.

While the vocabulary created by Dr. Raghuveer was surrounded by grammatical accuracy, on the other hand, the words created on the basis of Indianist/Hindustani ideology can be called ungrammatical, because the grammatical structure of these words was against the nature of the language. Most of its words did not find social acceptance and were rejected. The excessive use of hybrid words as well as the use of Sanskrit, English, Urdu and Hindustani words and the use of Hindustani prefixes and suffixes on a large scale gave the Osmania vocabulary a peculiarity.

The Head of Hindustani Culture Society, Pt. Sunderlal's effort in the direction of making technical terms was also of this type. They wanted this terminology, which would represent the 'composite culture' of India, but it should not be a Sanskritic terminology. Being a fan of Hindustani, Pt. Sunderlal's terminology, the use of Hindustani, Urdu and Khadi Boli (dialect) words is more and Sanskrit is very less. Though he did not exclude the Sanskrit words in the formation of vocabulary, but also did not follow the related regulatory principles. Being a staunch supporter of Hindustani, Pt. Sudarlal had faith in Tadbhava forms. In addition to this, the means of Hindi or Urdu were used in the selection of prefixes and suffixes.

Thus, the proponents of the Indianist/Hindustani ideology created a 'mixed terminology' to make the Hindi language simpler, more usable and understandable. Whereas due to lack of basic structural framework, it was not possible to advance the process of word formation. Although it got success in some words, but Hindi speaking society did not fully accept the ideology of indigenization of terminology.

### **10.2.3 Internationalist Ideology**

Along with the Sanskrit-based 'puritan ideology' of Dr. Raghuveer and the 'Hindustani ideology' in the form of indigenization of terminology, another ideology also developed gradually. The supporters of this ideology were in favour of adopting words from other languages. This ideology is also given the name of 'Shabd-grahanvadi', 'Adanavadi' and 'English' ideology. The supporters of this view were mostly scientists, engineers, doctors, lawyers and government officials. They were in favour of taking English and international terminology. Being used to English words, these people wanted to avoid learning new Hindi words. They have been believing that development in the field of science and technology is the gift of western countries, so the concepts and things for which there are no words in Hindi, their English and international terms should be taken as it is or adapted with minimal changes. These people believed that due to the promotion of English and international terminology being the highest in the world, it would be easier for our scholars to understand the literature published in different languages. In his view, every scientific or technological term or semi-technical term is international and it is impractical to prescribe synonyms from the classical tradition. All efforts to translate them will fail and this will lower the level of scientific-technical education of the country. By taking this route, the terminology problem

for the translator or writer will be solved once and for all, while our use of words from English or other languages at the international level will add to internationalism. Otherwise also, new words will always keep coming in from different branches of knowledge, then how long will we keep searching/creating words from internal or indigenous sources. In the English language too, there is a tendency to borrow words from different languages, and by adopting this trend in Hindi too, the problem of technical terminology will be removed forever. This terminology was given the name of 'International terminology'.

This concept related to word acquisition can be seen from two sides - (1) taking words as they are, or (2) by adding prefixes and suffixes to English words or as sound changes according to the nature of their language. To bring the words into practice in an adapted form by making slight changes. 'Radio', 'Oxygen', 'Station', 'Police', 'Litre', 'Meter', 'Heater', 'Radar', 'Geyser', 'Hectare', 'Focus' etc. can be seen as an example of adopting as it is in Hindi terminology.. Whereas words like 'focus' with prefix-suffixes like '*focusan*' and '*focusit*' etc. are forms of adaptation in Hindi. On the other hand, the words 'Kaamdi' for 'Comedy', 'Technik' for 'Technique', 'Trasadi' for 'Tragedy', 'antrim' for 'interim' etc. are direct evidence of adaptation in the form of sound-change.

#### **10.2.4 Populist Ideology**

There is also a populist view. This tendency is also known as 'Swabhashawaadi ideology'. The base of the supporters of this view has been to take words from popular use or to create words from the combination of popular words. This view regarding the formation of technical words can be said to be in favour of the nature of Hindi language. Using the word 'Ghuspaithiya' for 'infiltrator' is indicative of the populist ideology of taking words from public use. By the way, in this regard, the fact cannot be ignored that gathering all kinds of technical words from public use has been the limit of this ideology. For this reason, a grand edifice of technical terms cannot be erected in Hindi language by taking the support of only this idea.

#### **10.2.5 Coordinative Approach**

The intricacy of the terminology developed from the 'puritan' point of view, the indigenization of the terminology by the 'Indianist' ideology, the limited possibilities of terms-making by the 'populist' ideology and the limits of the internationalist ideology are indicative of extremism. For this reason, it was natural for a situation of chaos to arise in the field of terminology. In fact, it is not acceptable to overwhelm any language-society with ultra-puritanistic rules or innate rules of language or by overwhelming them with foreign words. In such a situation, leaving the difficult processes of word-composition and choosing the right points of different ideologies, the only way to reach the place of coordination remains. In 'Critical Study of Terminology of Social Sciences', Dr.Gopal Sharma has written that 'an integrated approach lies in the correct determination of India's social, literary, educational and economic needs, keeping in view the development of the language and its present condition, to make it prosperous. There should be a proper evaluation of the various means used and a universally accepted method should be prepared by taking the best elements contained in them. It is not right to consider language as an abstraction. It is a reality, a behaviour or an action, it has a practical purpose. Therefore, it is necessary to

evaluate its need on the basis of activity and life-order of the people-society.’ (p. 89) Technical terminology can be enriched by adopting this balanced approach in technical term adoption and new-word formation.

Keeping in view the convenience and the nature of Indian languages on the basis of coordination opinion, coordination of word-acquisition and new-word formation can be done. Words can be taken from the international, English, Sanskrit, Prakrit, ancient and medieval literature of modern languages as well as the vocabulary of all other Indian languages and dialects. Great personalities like Mahatma Gandhi, Dr. Rajendra Prasad and Pandit Jawaharlal Nehru have given importance to aspects like simplicity, clarity and subtlety in terminology. In this context, Dr. Rajendra Prasad’s views is remarkable that ‘new words, which are created from the point of view of technical requirements or with a view to denoting the true meaning of special words and expressions of other languages, should first be taken from other provincial languages and dialects. Even words derived purely from foreign languages should not be completely excluded. Sanskrit should be the main source of most of the word-formation, but in this context, accuracy and pedantic style should be avoided and we should try to make such words from Sanskrit, which fit in the structure and nature of the spoken language and be loved by the public because of simplicity.’ (Quoted from ‘Critical Study of Terminology of Social Sciences’, Dr. Gopal Sharma, p.92) Out of many works done at individual and institutional level in the field of making terminology, the work done by Prof. T.K. Gajjar, Bangiya Sahitya Parishad, Nagari Pracharini Sabha, Maharashtra Kosh Mandal, Hindi Sahitya Sammelan and the Commission for Scientific and Technical Terminology of the Central Government etc. are actually indicative of practical coordination-place. The scholars of syncretism believe that :

- The words which can run in their original form should be accepted as they are. While taking the words, in which it is necessary, adaptation of the accepted word according to the sound system of our language (like adopting the word ‘Academy’, instead of transliterating it, adapt it according to the sound system of Hindi language as ‘akademi’) otherwise new words should be made by adding prefix-suffix to them. (Like taking the word ‘focus’ and adding prefix-suffix to its transliterated form ‘focus’ to make the Hindi word ‘focusan’, ‘focusit’).
- In new-word formation, first of all Sanskrit, otherwise suitable words available in various Indian languages and dialects should be adopted as much as possible and new words should be created with their help. New technical words should be created by adding prefix-suffix to the words of our language or Sanskrit root-words and using conjunctions according to grammatical rules. While doing this, the use of hybrid words is also acceptable. But such newly created words do not have to be rigid. They should be able to move easily in the language.
- Avoiding the extreme situations related to pureism or uncontrolled experimentalism, walking on the path of spontaneity-simplicity, subtlety and comprehensibility, due faith in the practice of terminological terminology.

In fact, it is the ideology of formation of terms according to social needs. There is a tendency to consider the terminology as provisional, giving priority to the practical side, so that it can be revised and amended in time intervals. 'In all walks of life ideas are developing, outlook is altering and the acceptable words available to the plain man are not always adequate for the expression of his changing thought. The development of language always lags behind the demands made up on it.' – Browsing among the words of Science, T.H. Savory, p.9)

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### 10.3 Principles of Making Scientific-Technical Terminology

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Due to puritanical, Indianist and internationalist ideologies of extremism, a state of anarchy prevailed in the field of terminologies. To deal with this chaos and to determine the principles of terminology, the Government of India established the 'Commission for Scientific and Technical Terminology' (CSTT) in 1961. You have read in Section 9.3.2 of the previous unit that earlier in the year 1950 the 'Board of Scientific Terminology' was established. After changing the name several times from time to time, it is now known as the 'Commission for Scientific and Technical Terminology'.

The Commission was entrusted with the responsibility of uniformity-conformity and standardization of the technical terminology, which has the impression of Pan-Indianness. Instead of supporting any extreme point of view, the Commission followed the middle path keeping in view the national goal and the reality of the language-society. For this, the Commission took the basic elements from the above ideologies by exchanging views with the country's well-known scholars, scientists, subject-experts and linguists and prepared several guiding principles for the formation of terminology at the all-India level. These principles are actually based on the syncretistic approach of technical terminology. In this, there is an urge to accept English, Hindustani, Hindi-Urdu, Sanskrit words and word-making methods to a certain extent.

At the core of the Syncretistic approach is the emphasis on taking appropriate words according to the context, which may be Sanskrit, international, English, vernacular languages/dialects etc. With this syncretistic point of view, the expression of social culture can be easily done.

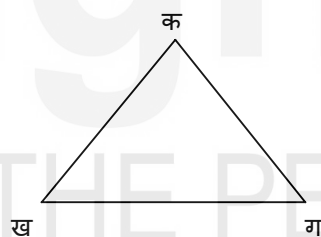
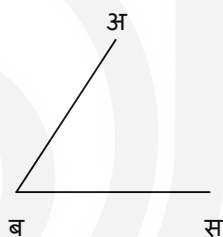
The Commission has adopted a comprehensive approach for the formation of Hindi technical terminology. The 'Preface' of the Commission's 'Comprehensive Glossary of Technical Terms : Science', published in two parts in 1967 gives information about the principles adopted by the Commission for the formation of scientific terms. The principles of terminology-making given in the 'Introduction' are as follows:

#### **Principles For Evolution of Terminology Approved By the Commission For Scientific and Technical Terminology**

'International terms' should be adopted in their current English forms, as far as possible and transliterated in Hindi and other Indian languages according to their genus. The following should be taken as example of international terms.

- (a) Names of elements and compounds. e.g. *Hydrogen, Carbon dioxide*, etc.;

- (b) Units of weights, measures and physical quantities, e.g. *dyne, calorie, ampere*, etc.
  - (c) Terms based on proper names e.g.. Fahrenheit scale (Mr. Fahrenheit), Voltmeter (Volta), Ampere (Ampere), etc.;
  - (d) Binomial nomenclature in such sciences as *Botany, Zoology, Geology* etc.;
  - (e) Constants, e.g.  $\pi, g$  etc.;
  - (f) Words like *Radio, Petrol, Radar, Electron, Proton, Neutron* etc., which have gained practically world-wide usage;
  - (g) Numerals, symbols, signs and formulae used in mathematics and other sciences e.g. *sin, cos, tan, log* etc. (Letters used in mathematical operation should be in Roman or Greek alphabets).
2. The symbols will remain in international form written in Roman script, but abbreviations may be written in Nagari and standardised form, specially for common weights and measures, e.g., the symbol 'cm' for centimetre will be used as such in Hindi, but the abbreviation in Nagari may be सें.मी. This will apply to books for children and other popular works only, but in standard works of science and technology, the international symbols only like cm., should be used.
3. Letters of Indian scripts may be used in geometrical figures e.g. क, ख, ग or अ, ब, स



but only letters of Roman and Greek alphabets should be used in trigonometrically relations e.g.,  $\sin A, \cos B$  etc.

- 4. Conceptual terms should generally be translated.
- 5. In the selection of Hindi equivalents simplicity, precision of meaning and easy intelligibility should be borne in mind. Obscurantism and purism may be avoided.
- 6. The aim should be to achieve maximum possible identity in all Indian languages by selecting terms :-
  - (a) common to as many of the regional languages as possible; and
  - (b) based on Sanskrit roots.
- 7. Indigenous terms, which have come into vogue in our languages for certain technical words of common use, as तार for telegraph/telegram, महाद्वीप for continent, परमाणु for atom etc., will be retained.
- 8. Such loan words from English, Portuguese, French, etc., as have gained wide currency in Indian languages should be retained e.g. *Engine, Machine, Lava, Meter, Litre, Prism, Torch* etc.
- 9. **Transliteration of International terms into Devanagari Script** - The transliteration of English terms should not be made so complex as to necessitate the introduction of new signs and symbols in the present Devanagari characters. The Devanagari

rendering of English terms should aim at maximum approximation to the standard English pronunciation with such modifications as prevalent amongst the educated circle in India.

- 10) **Gender** - International words adopted in Hindi should be used in the masculine gender, unless there are compelling reasons to the contrary.
- 11) **Hybrid formation** - Hybrid forms in scientific terminologies e.g., such as आयनीकरण for ionization, वोल्टता voltage for voltage, वलय-स्टैण्ड for ringstand, साबुनीकारक for saponifier, etc. are normal and natural linguistic phenomena and that such forms may be adopted in practice keeping in view the requirements of the scientific terminology, viz., *simplicity, utility and precision*.
- 12) **Sandhi and Samas in Scientific terms** - Complex forms of Sandhi may be avoided and in cases of compound words, hyphen may be placed in between the two terms because this would enable the users to have a more easy and quicker grasp of the word structure of the new terms. As regards अभिवृद्धि in Sanskrit-based words, it would be desirable to use अभिवृद्धि in prevalent Sanskrit *tatsama* words e.g. व्यावहारिक, लाक्षणिक etc., but may be avoided in newly coined words.
- 13) **Halants** - Newly adopted terms should be correctly rendered with the use of 'Hal' wherever necessary.
- 14) **Use of the पंचमवर्ण** – The use of अनुस्वार may be preferred in place of पंचमवर्ण but in words like 'lens', 'patent' etc., the transliteration should be लेन्स, पेटेन्ट and not लैस, पेटेंट or पेटेण्ट.

Keeping in view the national goal and the reality of the language-society, the Commission has done an important task of developing an pan-Indian terminology by accepting these principles in order to determine/create equivalent terms. By implementing the above principles set by the CSTT, lexical uniformity will be made in the language and its standardization will be possible. At the same time, with the help of these principles, translation of technical terminology of foreign or regional languages will also become easier.

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#### 10.4 Strategies/Technique of Making Technical Terminology

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The development of any new concept demands new words for expression. The language, in which a new concept develops, creates new technical terms. The languages that adopt this development, adopt that terms and create new words according to the grammatical laws of their language. The formation of these technical terms does not have any separate grammar of its own, that is, the process of their formation is not different from the making-process of common words. Due to no difference between the two types of words at the structural level, the making-process of technical words is also the same as the normal word making-process.

The first attempt in the direction of making a technical terminology is to select only the synonyms available in the target language repository that express the practical meaning of the concept. Based on this approach, the word 'विरचन' in Hindi language was taken for the technical word 'catharsis' in English. Similarly, the equivalent of 'hour' was defined as 'घंटा', while the words denoting the concepts of English 'minute' and 'second', due to non-

availability of synonyms in the Hindi language, these words were adopted and transliterated. In addition to this, new word-formation is also done according to its linguistic system. In addition to taking such terms, the support of translation is also taken. In this way, the dimensions of making technical terminology are - adoption, adaptation, neo-composition; and translation.

The process of making technical terms is indicated when defining technical terms in 'Chambers Technical Dictionary'. In this it is mentioned that 'Technical words are in fact symbols, adopted or invented by specialists and technicians to facilitate the precise recording of their ideas.'

#### 10.4.1 Adoption

There are some international terms whose concept is very complex and difficult. Accepting such terms in your own language is called 'Adoption'. Some scholars have also given the name of 'quoted terminology' to the accepted terms in this form. The specialty of these types of words is that they are an important part of the technical terminology, so laxity cannot be adopted in relation to them. These include (a) names of elements-compounds such as nitrogen-oxygen, (b) units of measurement-weighing and physical quantities such as meter, calorie, dyne, ampere, (c) Binomial nomenclature in such sciences (for example botany and zoology), (d) words created after people like Darwin and Marx (like Darwinism, Marxism etc.) (f) Words like *Radio*, *Petrol*, *Radar*, *Electron*, *Proton*, *Neutron* etc., which have gained practically world-wide usage; (g) constants like  $\pi$ ,  $g$  (h) numerals, symbols, signs, formulae etc. used in mathematics and sciences.

When we consider the technical terminology of Hindi language, we find that this terminology has been enriched by various sources of Sanskrit origin or traditional and popular words in use, Urdu, English and other Indian languages.

While writing such adopted terminology in Devanagari and using it in our own language, the main difficulty lies in the spelling. For example, from the point of view of pronunciation, there is a difference in the spelling of the words 'pneumonia', 'machine', 'vitamin' etc.

In Hindi, the adoption of international words does not mean that we lack the ability to form words in our own language. In fact, this is a normal process of language development. Every language goes through this phase frequently. If we consider this aspect in the context of English language, then we find that many Indian words related to philosophy-yoga and judiciary etc. have been adopted in English. Some of these words are *Maya*, *Dacoit*, *Yoga*, *Cot*, *Jungle*, *Chutney*, *Curry*, *Thug* etc. Similarly, the word 'Brother' in English is derived from German, the word 'Position' from French, the word 'Agile' from Italian and the word 'Admiral' from Arabic language. If a word reaches the language through any other medium, then a slight change will be seen in it. Indian words like '*Chandan*' and '*Kapoor*' reached in English through Arabic and became 'Sandal' and 'Camphor' respectively. Similarly, the word 'chit' in English can be traced back to Hindi word '*chitti*' (chitty-chhitthi). And the short form of 'chitty' became 'chit' in English. And similarly, '*khaat*' in Hindi became 'cot' in English. While transliterating adopted words, it is necessary to keep in mind the nature of our language.

#### 10.4.2 Adaptation

In the context of the term, the meaning of 'adaptation' is to adapt the word according to its own language while making some changes in the word. While adapting terms, the basic concept of treating that particular word of a foreign language as one's own word. But instead of taking that special word as it is, it is developed according to the nature of the target language. This tendency of adaptation is the innate tendency of every language. This optimization is possible in two ways:

- a) Adapting the word by affixing it according to the grammatical rules of your language. For example, the Hindi word 'Sant' was adopted by the English language, but it was developed as 'Saint' according to the grammar of its language. Similarly, the word 'loot' of Hindi became 'Looting' in English. In English, the word 'Brother' is taken from German, the word 'Position' from French, the word 'Agile' from Italian and the word 'Admiral' from Arabic, but the words derived from them, respectively, 'Brotherhood', 'positioned', 'agileness', 'admiralty' are made according to their own grammatical rules of English.

If we look in the context of Hindi language, then the word '*voltata*' used in Hindi language for the English word 'Voltage' can be seen which is formed by adding 'ta' suffix with 'volt'. Such words with mixed form are called '*Sankar Shabd*' in Hindi and 'Hybrid Words' in English.

- b) To adapt the word by making slight changes in the sounds of the words. In Hindi language 'Academy', 'Saman', 'Fantaasi', 'Sentry', 'Technik', 'Rapat', 'Appeliye', 'Godaam', 'Trasadi', 'Kaamdi', and 'Reportage' etc. words are formed on the basis of phonetics.

In this context, it can be said that by applying Hindi suffix to the unaccustomed to the sound system of our language, to adapt the word and to establish harmony in our language by making minor changes in their sounds, the family of technical terminology develops. Their use brings ease in syntax. This is proof of the survival of the language, because no language can reject words from other languages.

#### 10.4.3 Neo-composition/coinage

Neo-composition is needed for the use of those technical words, whose proper synonyms are not already available in languages and whose adoption or adaptation is possible, accessible and useful. In this situation, the principle of making of new words is adopted. Words in the Hindi language come from four sources. These are - *Tatsam*, *Tadbhava*, *Deshaj* (indigenous) and foreign words. For the making of new terms, words are made by applying prefix-suffix to the root-words and using the compound-combination method. It is not necessary that a part of all these is present in each word. It can happen to one of these, two also and three, four, five. But the word made by combining them remains the same. This is the most common method of neo-composition and is used in more or less all languages including Tamil, Latin-Greek etc. Many technical terms in Hindi have been made on the basis of this method.

Words are classified into eight categories such as noun, pronoun, verb, adjective etc. Out of these, four are called 'Vikari Shabda' (declinable word) and four 'Avikari Shabda/Avyaya' (invariable word). The conformation of degenerate words changes according to linguistic and grammatical requirements. It is meant to say that according to gender, person, case, verb and adjective, there is a change in the structure of words. There is enough transparency in Hindi words. Sanskrit language is mostly used for word formation in Hindi language because it has an infinite source of word formation. Millions of words can be made with the help of 520 root-words, 20 prefixes and 80 suffixes of Sanskrit language. By proper use of these, even systematic creation of technical terms can be done. If the root-word is known, then with the help of prefixes and suffixes, a person himself can create adjectives, adverbs etc.

Neo-composition method is very useful and practical to determine the synonyms of conceptual words. This is the reason why this technique has been openly adopted in the formation and development of national vocabulary. From the point of view of meaning, this method of formation of new words proves useful in determining the synonyms of words which are close in meaning. For example, Hindi equivalents for 'maintenance', 'preservation', 'reservation' and 'conservation' have been created. It would also not be inappropriate to mention here that most of the prefixes and suffixes attached to the word or root express some meaning or connotation. This helps in understanding the meaning of the newly coined word. In addition to suffixes, words are also formed by conjunctions. The conjunction of words can be seen at the level of word with word, word with prefix and also with the suffix of the word.

For foreign words, the method of word formation has also been adopted by 'Samas' (compound). In Sanskritized words, compounding method is often adopted, new words are also created by mixing Hindi-Sanskrit words with words of foreign languages. In compound method, there are three ways of writing newly formed words:

- (1) Tendency to put hyphens between newly created words;
- (2) The tendency to write newly created words together; and
- (3) Tendency to write words separately.

It is also remarkable in the formation of synonyms of technical terms that terminology has been developed even by adopting *tatsam-tadbhava* forms of the same word in different meanings. For example, for the word of English 'steam', the equivalent word 'भाप' and for the word 'vapur' of English, the equivalent word 'वाष्प' has been set. Similarly, a distinction has also been made for the same term to denote different context-specific terms. For example, the English word 'designation' can be taken in administrative terminology, for which the synonyms 'पद' and 'पदनाम' have been prescribed.

The work of making terminology in India is done by the 'Commission for Scientific and Technical Terminology' of the Central Government. The Commission has jurisdiction in the field of terminology making. The terminologies made by the Commission are considered to be reliable and are admissible. The Commission has accepted this principle of formation of new words by adding prefix-suffix to the root-words and using the joint-combination method.

#### 10.4.4 Translation

Translation is also used in the process of formation a technical terminology. It creates the receptive condition for the language to receive the original concept expressed as a technical term. While adopting the word to express that new concept in another language, a national terminology family is developed based on the translation method. The terminologies formed by this method are called translation synonyms. Due to continuous use, the target language-society accepts the translation equivalent of the technical term. Translation method has been adopted in the making of many technical words etc. Similarly, sometimes a technical terms-group made up of three or more words is also translated.

It is clear that translation plays an important role in the process of making a technical terminology. It is worth mentioning that in this process, the support of literal translation is taken, that is, the word of the target language is kept equivalent to the technical word of the source language. But there is a need to be very careful in this, because without understanding the basic sense of the word, making synonyms through translation can sometimes prove to be dangerous. For example, the word ‘programme’ is used in Computer Science, a branch of Applied Science. While determining its Hindi equivalent, it will be translated as ‘कार्यक्रम’, while its actual meaning is ‘orders given in a sequence’ and on this basis its translation ‘क्रमादेश’ is appropriate. Ignoring this aspect in terminology-making, if only literal translation is done, then the word translation of Computer Science’s term ‘mouse’ will appear as ‘चूहा (rat)’.

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#### 10.5 Pan-Indian Glossary

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It must have been clear to you from the study done so far about technical terminology that the Commission for Scientific and Technical Terminology (CSTT) is established as the top institution for compilation, creation, coordination etc. of technical terminology in Hindi. The Commission presented standard Hindi equivalents for technical terminology of various subjects/sub-disciplines of Humanities and Science branches/sub-disciplines. The Commission published many terminologies etc. on various subjects. These technologies contain several lakhs of words. But, in spite of this situation, the Commission adopted the scheme of creating or identifying an ‘Pan-Indian Terminology’ in the eighties of the last century. This is a question worth considering in itself. While considering this, first of all it is necessary to consider the need of pan-Indian terminology making.

##### 10.5.1 Need for Pan-Indian Terms

In Section 10.3 of this unit, you have read about the principles of formation of scientific and technical terminology. The basic purpose of making these principles was that on the basis of them, this technical terminology should be developed which can be used equally for all modern Indian languages. On this basis many terminologies of different subjects were also prepared. But with the passage of time it was observed that due to some reasons the objectives of the Commission regarding the development of a common technical terminology for all the modern Indian languages could not be fully realized.

Highlighting the reasons behind this, Dr. Malik Mohammad, the then Chairperson of the Commission for Scientific and Technical Terminology, wrote in the 'preface' of the 'Pan-Indian Terminology' of Physics published in 1987 that 'one of the obvious reasons for this was that the terminology created by the Commission, agencies at the state level could not be set up in time to adopt the terminology, adapt it and give wide publicity. As a result, authors and translators had no authentic source material in terms of terminology. In this situation, whatever technical literature he got his hands on, he took technical terms from it, whether it was of literary standard or not. Worse still, some authors coined many new words without taking into account the accepted principles of lexicography. As a result, today in every language, many synonyms are in vogue for the same concept.' The then Chairperson Dr. Harish Kumar has also mentioned these reasons in the 'preface' to the 'Consolidated Pan-Indian Terms' published by the Commission in the year 2002.

It is clear that the task of adopting, adapting and widely disseminating the terminology created by the Commission could not be done and chaos remained in the field of terminology. This situation created the need for this technical terminology of Indian languages, in which there is mutual similarity in all languages. With this uniformity and equality can be established in technical terminology at all-India level. This uniformity of terminology would facilitate higher education, research as well as communication and exchange of scientific information.

To move forward in working towards a plan to identify or decide synonyms for basic terms related to science and technology, CSTT organized a seminar on the topic 'Pan-Indian Terminology' in Bangalore University in 1979. In this seminar the topic of Pan-Indian terminology was discussed and necessary guidelines related to it were determined. The Commission started working on this project from 1980. Under this scheme, work was done in the direction of compiling such words from the languages of all the states, which should be accepted for all in India. The scheme was implemented in collaboration with the State Text-book Boards.

#### **10.5.2 Method of Making Terminology**

In the method adopted for the making of Pan-Indian Terminology, the first attempt was made that the CSTT prepares a list of subject-specific basic terminology in English. This list would have been a compilation of words that could be accepted for all-India use. After that, copies of the prepared list were sent to all the State Text-book Boards of the country with a request to send this list to a scholar in their linguistic area who is not only an expert in the subject, but also be well-acquainted with the scientific and technical terms used in that particular language in your language. That expert used to compile the synonyms of the technical words written in English included in the same list from the language of his linguistic area and then send them to the Commission. From the point of view of the linguistic field, these were standard synonyms in themselves. But after doing so much work, the synonyms of Pan-Indian Terminology are not definitely determined by the CSTT. The standard forms of English words included in the lists received from all the State Text-Book Boards were tabulated and presented in all India Seminars. In these lists, the synonyms approved by the Commission for those words were also given. Scholars nominated by the State Text-book

Boards and some linguists were invited to these seminars. These seminars were held at different places in the country. The scholars invited to the seminars would try to choose from the tabulated synonyms of that word which would be acceptable in all or most of the languages of the country. Apart from this, it would have also happened that if any of the synonyms available did not meet the criteria, then the linguists invited in the seminars would help in devising a new synonym which could be used at the all India level. In this way the synonyms of the Pan-Indian Terminology would have been determined.

It is clear that by adopting the above process, the Commission worked towards preparing Pan-Indian terminologies under the guidance of seminars, major subject-experts and language-experts. The words of various subjects compiled in this way are called ‘Pan-Indian Terminology’.

### **10.5.3 General Aspects of Identification and Published Glossaries**

Some common points also emerged during the deliberations in the all India Seminars organized by the Commission. These were the aspects which, if accepted as the basis, would have helped in determining the pan-Indian terminology. In the light of these aspects, the Commission took forward the work related to pan-Indian terminology. Dr. Malik Mohammad has highlighted these aspects in the introduction of ‘Pan-Indian Terminology’ of Physics. According to him, these aspects are:

1. International terms are valid for all.
2. Most of the Sanskrit words which do not convey very different meanings in different Indian languages are accepted for use on an all-India basis.
3. Words borrowed from Persian-Arabic which are already in vogue, are recognized by most of the Indian languages.
4. If any word has disrespectful or obscene meaning in any language, then it is completely rejected.
5. If a particular word is not acceptable to a language because a regional word is already so popular in its place that it is impossible to change it, then in this situation, as an exception, that language is allowed to continue using its pre-popular word.

Dr. Harish Kumar, the then Chairperson of the Commission, has also mentioned these aspects in the preface to the ‘Consolidated Pan-Indian Terms’ published by the Commission in the year 2002.

Under the ‘Pan-Indian Terms’ scheme, the Commission has published subject-wise compiled all India glossaries. The Commission first published ‘Pan-Indian Terms - Astronomy’ in 1985, followed by Economics and Commerce, Geography, Mathematics, Sociology and Cultural Anthropology (all in 1986); Physics (1987); Biology, Botany, Chemistry, Linguistics, Oceanography and Geology (1990); ‘Education, Psychology and Psychiatry’, Statistics (1991); Experimental Geography (1992); Civil Engineering, Human Geography (1993); Geology (1995); Pan-Indian glossaries of subjects like Medicine (1996) etc. were published. The Commission distributes these glossaries free of cost to professors, linguists,

writers, translators, lexicographers, journalists and state text-book manufacturing boards of various universities of the country.

Apart from this, the CSTT also worked towards making available all the above mentioned Pan-Indian terminologies in one book. The Commission called it the 'Comprehensive Glossary of Pan-Indian Terms' (published in the year 2002 under the aegis of Haryana Sahitya Akademi). This is a glossary prepared in English-Roman-Hindi. Dr. Harish Kumar, the then Chairperson of the Commission, was its Editor-in-chief.

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## **10.6 Let Us Sum Up**

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In fact, every language-society needs words for its expression when exposed to any new idea, concept or situation. For this, the vocabulary-family is developed and promoted through traditional, new and newly created words. 'Adoption' in the form of accepting words as they are, adjustment of meaning-change/adjustment of existing words by expanding or narrowing the traditional meaning of existing words, 'adaptation' in phonetic or hybrid form, by adding prefix-suffix to roots and by adopting the trick of 'neo-composition' and 'translation' of words by joining-compounding, the technical terms that are determined enrich the technical terminology of a particular language by becoming a part of the vocabulary-family.

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## **10.7 Exercises**

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1. Give an introduction to the different schools of thought related to technical terminologies.
2. Throw light on the principles of technical terminology formation accepted by the Commission for Scientific and Technical Terminology.
3. Discuss the various strategies for making a technical terminology.
4. Throw light on the concept and dimensions of Pan-Indian Terminology.

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## **10.8 Suggested Readings**

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## UNIT 11 TECHNICAL TERMINOLOGY AND TRANSLATION

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### Structure

- 11.0 Objectives
- 11.1 Introduction
- 11.2 Need of Technical Terms in Translation
- 11.3 Terminological Glossaries : As Means of Translation
- 11.4 Selection-process and Relevance of Technical Terminologies in Translation
- 11.5 Comfortability of Using Technical terminology in Translation
- 11.6 Usage of Technical Terminologies in Translation : Complexities and Resolutions
- 11.7 Let Us Sum Up
- 11.8 Exercises
- 11.9 Suggested Readings

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### 11.0 Objectives

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After going through this unit you should be able to :

- understand the need of technical terminology in translation;
- become familiar with terminologies as means of translation;
- know the selection-process and relevance of technical terms in translation;
- find out about the points of ease of using technical terminology in translation; and
- understand the problem of complexity in relation to technical terms usage in translation and become familiar with its possible solutions.

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### 11.1 Introduction

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You have learned in the previous units that technical terms are distinguished from general terms. They have a definite and specific meaning embedded in them. The rich languages of the world are endowed with technical terminology. In this era of science and technology, work cannot be done without technical words. You have read that at the time of original inspiration, the definitional words are formed automatically on the basis of time and space. This is called the 'Natural Development-process' of technical terminology. But when knowledge or science-technology is adopted from another language, then along with the specific information related to it, the terminologies also come in the own (target) language. After encountering the input lexical word, it is up to the speakers of the target language to determine the equivalent through the process employed for it. They take the word as it is and transliterate it, molding it as per their language, altering it slightly and adapting it, according to the grammatical rules of their language, with the help of prefix-suffix etc. create new words or translate them.

The process of development of terminology in India has basically been a 'Planned Development-process'. This work related to this planned development process of terminological terminology making is being completed by the Commission for Scientific and

Technical Terminology (CSTT) at the central level, so that uniformity and standardization can be maintained in the use of technical terminology at the all-India level.

When the literature of knowledge or science-technology etc. is brought into our own language through translation, it becomes necessary at the level of the translator that he should have proper knowledge of terminologies of respective field. Only then he is able to translate properly. For this, it is necessary that he has an understanding of the difference between the translation of general words and the translation of terminological terms. For successful and meaningful translation, one has to collect technical terms or prepare a dictionary or use the standard technical terminology collection prepared by the Commission for Scientific and Technical Terminology. It is meant to say that there is a close relationship between terminology and translation.

In the context of translation, it is also necessary to mention that the translator should know how to choose the terminologies, so that they can effectively express the message of the source language in the target language, as well as make the message complete; be relevant as well. While selecting the terminologies, it is also very important to have knowledge of their internal process and their contextual meanings. In the present unit, consideration is being given in the light of all these aspects. In this context, first of all, it is necessary to know about the need and importance of terminology in the context of translation.

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## **11.2 Need of Technical Terms in Translation**

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In the modern era, translation has taken the form of an essential requirement. Today, translation is an easy and important means to know the prevalent, disseminated and expressed facts in all fields. You know that the progress and development of any country is measured by its scientific and technological development. That is why in all the countries of the world, there is a lot of competition for development in science, technology and technical fields. Scientists make many inventions in their country. The materials and techniques used in these inventions are written in the language of that country. When scientists write them down in their own language, only then the technical terminology is also created. For example, Marconi wrote his inventions in Italian, while Marie Curie described her inventions in Polish. Similarly, the story of the invention of Sputnik is found in the Russian language.

You can understand that in any country where scientific and technological discoveries are made, new technical terminology is also created for them in the language of that country. This process of development of technical terminology is named as 'Natural Process'. You have studied about this process in detail in Unit 9 of this Course.

Here it is necessary to note once again that not all types of scientific and technological inventions happen in all countries. That's why other countries refer to those inventions of other countries (where scientific and technological inventions have taken place) as well as their terminology. They acquire that technical terminology either directly or through translation. But, in a country where there is no policy or arrangement for translation, they do their scientific, technical and technological work in a foreign language. The Government of India has established the Commission for Scientific and Technical Terminology (CSTT) in

New Delhi, under the Ministry of Education, for the development of technical terminologies related to scientific, technical and technology in our country. This Commission continues to conduct various activities in this context. For example, making of technical terminologies related glossaries, organizing glossary workshops, establishment of vocabulary clubs, computerization of glossaries etc., does many things for the development and publication of terminologies. It is clear that this development of terminologies is systematically worked out. These planned efforts form the basis of 'Planned Development-process' of technical terminology. You have already read about the planned development of terminologies in Unit 9 of this course.

In the context of Technical terminologies, some countries are very rich and prosperous because there has been a lot of progress in the field of science, technology and humanities. Translation is the most convenient means of acquiring technology and scientific knowledge from developed countries. By the way, developed countries have also enriched themselves with the languages of other countries for scientific and technological development. For example, we can see that the editor of the book 'Medical Etymology' has discussed about the western terminology of medical science. According to him, the word 'Allopath' is evolved from the Greek language - Greek: allos – other Phathos – suffering. In this context his following statement deserves special attention:

The overwhelming majority of our medical terms stems from Greek, another sizable group is derived from Latin.....

Meanwhile a few of our words have other sources from the Arabic we derive a number of terms especially for our Pharma copia.

|        |         |   |          |          |
|--------|---------|---|----------|----------|
| e.g. : | alcohol | - | alkali   |          |
|        | Camphor | - | Naptha   | - Sinna  |
|        | Syrup   | - | al-chemy | - elixis |

A few simple words are of Scandinavian descent – ill, leg, skin, scab.

From the French, we have adopted a number of medical terms unchanged or slightly modified – pipette, malaise, poison, venom.

Some others are anglicized from the French words – goiter, gout, jaundice, ointment, physician, powder. Still came from the Greek via French, migraine, frenzy.

For a few words we are indebted to Italian and Dutch.

|         |   |                    |
|---------|---|--------------------|
| Italian | - | influenza, malaria |
| Dutch   | - | cough, sprue       |

(Quoted from Anuvad Kala, Dr. N.E. Vishwanath Iyer, p. 64)

You have already studied in Unit 8 of this course that technical terms are those words which remain bound in certain limits. These words are related to different fields of knowledge than in general practice. The boundary of their meaning is fixed. They have specific and definite meaning. Because of being defined from the point of view of meaning and usage, these words are called 'technical terms'. You have also read that technical words are always used in

denotative meaning, not in the connotative meaning. These words are subject-specific. Terms used in various disciplines of knowledge such as Physics, Chemistry, Botany, Zoology, Mathematics, Political Science, History, Philosophy, Sociology, Public Administration, Psychology, Economics, Literature etc. are technical, and they mean the concerned discipline, science or subject can be understood only in their context. Due to the tendency of restricted meaning, these words are connoisseur of subtle or specific meaning. Since the technical words are not used in public life for general practice, they are related to the specific field of knowledge, hence the boundaries of the meaning and usage of the words are fixed. Technical words express a specific idea, feeling or concept. These words are used only in the definitional sense. For example, 'morphemes' and 'phoneme' in Linguistics; and 'Prakari' and 'pataka' in Natyashastra etc.

Being subject-specific, technical terms are widely used in the literature of knowledge and science. Therefore, technical terminology is needed in many ways in translation. Terminology becomes important especially in the field of non-literary translation. Each field has its own specific terminologies. Definitional words are connoisseurs of subtle or specific meaning. The special thing is that they are used in the same sense in their respective subject areas. Being subject-specific, even when words or vocabulary are one, their meanings become different in a particular context. For example, the word 'credit' is used in the meaning of 'deposit' in the bank, then in the market the same word is used in the meaning of 'loan' and 'credit' for any industrial organization or person etc. used in the sense of 'reputation' or 'goodwill'. Similarly, the word 'operation' is used to mean 'surgery' in the field of medicine, while in the field of service the word gives a different meaning (for example, the term 'operation flood' used in the context of 'White Revolution' of India).

There is a special need for technical terminology in translation, because in its absence, correct translation cannot be done. Even if an effort is made, there is a possibility that the translation will not be able to express the original or there will be an unnecessary extension of the implied meaning, because the technical terms are basically subjective, they have a concise and definite meaning. It is essential to have accurate and adequate knowledge of the technical terminology of the translation. For this the translator has to take the help of many types of dictionaries. Computer also helps a lot in this work.

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### **11.3 Technical Terminologies : As Means of Translation**

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The process of translating the message expressed in the source language into the target language as a whole is a laborious process, with full of challenges. The reason for this is that the nature of the source language and the target language are not the same and their formation is also not the same. There is also a substantial difference in the socio-cultural conditions of the two languages. legends, idioms, proverbs etc. easily prevalent in any one language are linked to the socio-cultural background and folk environment of that particular language . So complete transfer to another language is sometimes very difficult.

You know that India is a multilingual country. Nowhere in the world is multilingualism like India. 1652 languages have been observed in practice in the country. This multilingualism of India has also been accepted in the Constitution of India. If we look at the Eighth Schedule of

the Constitution itself, 22 languages of India have been recognized in it. These languages are Assamese , Bangla, Odia , Manipuri, Santhali, Bodo, Gujarati, Punjabi, Dogri, Kashmiri, Sindhi, Marathi, Konkani, Sanskrit, Hindi, Urdu, Maithili, Nepali, Tamil, Malayalam, Kannada and Telugu. But despite this state of multilingualism, the integrity of Indian culture, Indian society, Indian life, Indian communication system and Indian tradition is exposed. Looking at India's multilingualism, foreign linguists raised the question that how so many languages are communicated in India? Because multilingualism hinders communication. But it is clear from the study and practical experience done in this regard that there is no hindrance in communication/communication system due to multilingualism in India. The fact is that there is a continuum in Indian languages, there is a mutual similarity in their semantic and grammatical structure, many common elements are found between them. India's multilingualism is very much mixed with each other. There is inter-relationship among Indian languages. Amazing similarity is seen in words and sentences.

If you notice, you will find that thousands of general words related to remedies, tools, minerals, food and beverages, sports, ornaments, household items, vegetables, directions, religion, courts, birds, trees and plants, food, dress, nature, fruits, flowers, entertainment, spice, measurement, color, relationship, diseases, business, education etc. are used almost equally in all Indian languages.

Similarly, practical harmony is also seen at the level of other words. Mutual homogeneity i.e. similar elements in semantic and grammatical structure between different Indian languages can also be underlined. This type of amazing similarity can be seen at the level of sentences as well as words.

But, due to this situation of multilingualism, we have to resort to translation. That support may be formal or informal. That is, during communication with a non-speaking person, we make translation the medium. That is a 'spontaneous translation'. Apart from executive, judiciary, legislature , translation is also taken in various formal areas of life like education and knowledge. Man does this translation work on the basis of his memory power. But it also has a limit. Therefore, in order to deal with the translation work properly, the translator needs many tools.

To do translation work, the translator must have a good knowledge of both (source language and the target language) languages, as language is an important aspect while translating. Because of variability, it is very difficult to establish absolute authority in a language. One can have sufficient knowledge of one language but it is often difficult to have the same authority or knowledge in another language. That is why auxiliary material is needed for accurate translation. Of these, dictionaries prove to be the most important means. While translating, in case of doubt on the meaning or implication of a word, it is appropriate to take the help of the dictionary immediately . This caution is required for the translator to understand the appropriate meaning of the word and translate it properly.

In Unit-2 related to 'Types of Dictionaries', you have read that dictionaries are linguistic as well as non-linguistic. Dictionary of Synonym, dialect dictionary, dictionary of usages,

dictionary of idioms-proverbs etc. are important in linguistic dictionaries. In these dictionaries the meaning and usage of the words and expressions of the language are given along with their contexts. Dictionary of Literature, Dictionary of Philosophy, Science dictionary, Dictionary of Legends, Encyclopaedia etc. are included in non-linguistic dictionaries.

While different types of dictionaries are needed in translation work, there is also a need for technical terminologies and definitional dictionaries. When a translator has to translate material related to a specific field or subject, s/he needs to obtain synonyms in the target language for that subject-specific terminologies in the source language, and this is readily available through technical glossaries and terminologies. Hence, it proves to be important tools for the translator. For example, for the English word 'issue' in the general context of 'children', 'problem', 'issue' is used. But in the field of administration, journalism and commerce-stock market etc. it denotes different meaning.

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#### **11.4 Selection-process and Relevance of Technical Terminologies in Translation**

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It has been mentioned in the Introduction section of this unit that in the context of translation, it is necessary for the translator to know that the technical terminologies should be selected in such a way that they effectively convey the message of the source language in the target language. Further, at the same time, they should be completely relevant. It is also important to have a translator's internal process and knowledge of its contextual meaning while selecting technical terms. In the context of translation, it is believed that it is best to be as close to or as close to the original as possible. The translator tries to maintain this equivalence. Equivalent use of technical terms used in the literature of knowledge is not only expected but also mandatory for the translator. In this context, it is essential that the terminologies of the source language are properly translated into the target language.

You have read about the techniques of technical terminologies making in the previous Unit No. 10. You will remember that technical terminology is created by adopting the process of adoption, adaptation, neo-composition and translation. In the light of these, it can be said that in the process of selection of equivalent for technical terminology while translating, care should be taken in selection of international terminologies that as far as possible their prevailing form should be transliterated in Hindi. Thus, transliteration is also an important translation tool for the translator. These types of words are being used a lot in Hindi. For example, 'radio', 'radar', 'petrol', 'cement', 'company', 'meters', 'train', 'bus', 'car', 'pidgin', 'file', 'bank', 'x-ray', 'engine', 'battery', 'diesel', 'station', 'ticket', 'hockey', 'cricket' and 'harmonium' etc. are used in their transliterated form (i.e. in Devnagari) in Hindi.

It is relevant to transliterate the terminologies which are used in the whole world and use them in translation. This makes it easier to communicate the concept, meaning, and sense of a specific term because it is already embedded in the target language environment. For example, the translated form of 'cement', 'vajrachurna', has neither the sense of communication nor the ease of the original. Similarly, it is more convenient to take it in

transliterated form than the translated equivalent of ‘company’ ‘samvaay’. However, in this regard, the principles of making of technical terminologies by the Commission for Scientific and Technical Terminology should also be taken into account. With regard to international terms, the Commission has adopted the principle that :

1. ‘International terms’ should be adopted in their current English forms, as far as possible and transliterated in Hindi and other Indian languages according to their genus. The following should be taken as example of international terms :
  - (a) Names of elements and compounds. e.g. Hydrogen, Carbon dioxide, etc.;
  - (b) Units of weights, measures and physical quantities, e.g. dyne, calorie, ampere, etc.
  - (c) Terms based on proper names e.g. Marxism (Karl Marx), Braille (Braille), Boycott (Capt. Boycott), Guillotine (Dr. Guillotine), Gerrymander (Mr. Gerry), Ampere (Mr. Ampere). Fahrenheit scale (Mr. Fahrenheit), etc.
  - (d) Binomial nomenclature in such sciences as Botany, Zoology, Geology etc.;
  - (e) Constants, e.g.  $\pi$ , g, etc.;
  - (f) Words like radio, radar, electron, proton, neutron, etc., which have gained practically world-wide usage.
  - (g) Numerals, symbols, signs and formulae used in mathematics and other sciences e.g., sin, cos, tan, log etc. (Letters used in mathematical operation should be in Roman or Greek alphabets).

While transliterating ‘international terms’ into Devanagari script, it should be kept in mind that ‘the transliteration of English terms should not be so complex that it necessitates the introduction of new signs and symbols in the existing Devanagari alphabets. The aim should be to bring English words closer to standard English pronunciation and to introduce changes that are prevalent among the educated class in India.’ What is meant to say is that while transliterating foreign technical terms, they are sometimes adapted to Hindi sounds. Communicability and relevance are maintained through this process as well.

As you know, it is necessary to have ease in the selection of terminologies as well as concept-communication and experimental simplicity.

You should choose the technical terms in the translation according to the specific context. Despite being same meaning or synonyms, the technical terms formed from prefixes and suffixes express different meanings. Therefore special attention is required. However the prefixes ‘vice’, ‘sub’ and ‘deputy’ are synonyms, but it is clear that in spite of being synonymous, different definitions are formed from these prefixes.

When translating, there is also more than one synonym for the same English technical term. Similarly, for the same English technical word, different terms have to be selected according to the need in different subject areas or contexts. For example, see the following terms and meaning of their in Hindi, varying according to their scope or context:

|        |   |                                      |
|--------|---|--------------------------------------|
| Charge | : | Workload (meaning in Administration) |
|        |   | expense (meaning in Accountancy)     |

|           |   |                                                                                                                 |
|-----------|---|-----------------------------------------------------------------------------------------------------------------|
|           |   | attack (meaning in Politics)<br>charge (meaning in Law)                                                         |
| Credit    | : | Credit (meaning in Commercial)<br>loan (meaning in Economics)<br>credit, gratitude (meaning in Literature)      |
| Bar       | : | Silly (soap, ice cream)<br>ale<br>Bill (meaning in Administration)                                              |
| capital   | : | capital (meaning in business sector)<br>Capital letters (in English language)<br>Capital (of the country/state) |
| principal | : | Principal (in Education)<br>Head (in Administration)<br>principal (amount in banking)<br>owner, master          |
| play      | : | Sports<br>Drama                                                                                                 |

It becomes clear from the above examples that it becomes necessary to choose different words for different subject areas or contexts for technical English words. In this situation, the translator should understand the context and meaning of the technical terms found in the original text and choose the appropriate synonym.

In the translation of technical terms, it is also necessary to keep in mind that their appropriate and standard forms are selected. Some English terms have multiple forms in Hindi. The translator has to keep in mind that according to the context, he should choose the appropriate alternative among them.

After going through this part it must have become clear to you that it is advisable for the translation to be as close as possible to the original (i.e. the content of the source language). You have also come to know that the translation of technical terms is somewhat different from the general translation, because the technical terms contain a specific concept and while translating it has to be kept in mind that the whole concept should also be translated. In particular, it is important to pay attention to 'international terminology'. It is fine to accept international terms transliterated into the target language. By doing this, there is ease and comprehensibility in the communication of the concept, meaning and emotion inherent in the original word.

In addition to accepting international terminologies in transliterated form in the target language, considering other foreign terminologies, there is also the option of accepting them

in adapted form. Adaptability of these maintains communicability and relevance. In this connection the examples already given (such as ‘academy’, ‘technique’ etc. will be referred to as ‘akedemi’, ‘taknik’).

You have also seen that in the translation of technical terms, standard forms of equivalents are chosen.

You have also understood that special care is taken for simplicity in terminologies-making so that there is no difficulty or complexity in the language at the level of vocabulary. We also have to keep in mind that the selection of terminologies is done according to context-specific, not because of synonyms or antonyms. For example, the translation of ‘Vice President’ is both ‘Upaadhyaksh’ and ‘Uprashtrapati’ in Hindi. Therefore, the translation of ‘Vice President’ should be done as per the context.

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### **11.5 Comfortability of Using Technical terminology in Translation**

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From the study done so far, it must have become clear to you that specific and new meaning is attached to the technical terminology. Therefore, in terms of meaning and usage, they have some specific tendencies and qualities. For this reason, technical terminology is separated from general words or non-technical terminology.

It is often said that technical terminology is complex, it is not easy to understand. This type of words is specially said for the technical terminology of Hindi. In this part of the unit, we will consider why the question of difficulty of technical terminology arises and for whom it arises. At the same time, we will also consider what is the reality in this regard.

You know that if the terminological term is developed according to the nature of the language, then it is easily accepted and there is no question of complexity.

You know that just as caution is required in the neo-composition, adoption, adaptation and translation of technical terminology, in the same way caution is required in its usage. In the context of the use of technical terminology in translation, the following points need to be taken care of :

1. Excessive influence of the source language should be avoided while using technical terms in translation, because it is not necessary that the sense in which a technical term is used in different sciences and disciplines in the source language is the same in the target language as well. In the scriptures also the same word should be used in the same sense. For example, in English the word ‘root’ is used in both Botany and Grammar, with different meanings. But in Hindi, this word is not used in these senses in both these subjects.

Similarly, the word ‘function’ of English is used in Hindi in the sense of ‘work’ and ‘function’ in the field of administration and in the sense of ‘action’ in law and in the sense of ‘function’ in linguistics.

Let us take another example. For example, there is a word in English ‘margin’, which is used in expressing the sense of ‘possibility’, ‘benefit/profit’ and ‘difference’ in Hindi in the field of commerce. Whereas in the field of printing the same English word is used in expressing ‘*hashiya* (margin)’ or ‘*upaant*’ and in the sense of ‘*praant patti*’ in the field of architecture.

Same situation is in Hindi also. There is only one word in Hindi for different words used in different subjects in English. For example, in English there is ‘metal’ in metallurgy, ‘element’ in medicine and ‘root’ in linguistics, while in all these sciences only one word i.e. ‘*dhaatu*’ is used in Hindi.

2. Care should be taken in the use of technical terms in translation that the meaning which they express at first sight or in general, is not inconsistent with the definitional contexts. For example, an English word ‘artcraft’ is used in Library Science. If it is translated word-for-word, it would probably be ‘*Kalashilp*’ in Hindi. But this is not an appropriate translation because in Library Science it is a technical term, for which the word ‘*Kritrim Charmabandha*’ word is used in Hindi.
3. You know that in place of technical words, their synonyms cannot be used. Let us use an example to understand this in a better way. For example, in Chemistry the Hindi word ‘*Pani*’ can’t be used for ‘water’ and ‘*namak*’ for ‘salt’, whereas in normal life these Hindi words are very common. In the field of Chemistry, the Hindi words ‘*jal*’ and ‘*namak*’ are used respectively for these English words. In general contexts only, the English word ‘dead’ can have many Hindi equivalents which convey the meaning ‘deceased’, ‘departed’, ‘Heavenly’ etc. But if this English word ‘deceased’ comes in the language of administration or law, then the synonym ‘dead’ is appropriate and not ‘departed’ or ‘heavenly’ or ‘the other-worldly’.

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### 11.6 Usage of Technical Terminologies in Translation : Complexities and Resolutions

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In the earlier unit of this course, you have learned that the systematic formation of technical terminologies in Hindi and other Indian languages progressed at a rapid pace after independence. By that time, many Schools/Approaches/Ideologies of technical terminology-making had developed. These Schools were called ‘puritans’, ‘Internationalist’, ‘Hindustanist/Indianist’, and ‘populist’ Schools. The special thing is that the lexicographers who believed in these ideologies or approaches made different terminologies of knowledge on the basis of their respective principles. Their efforts were important in terms of making of technical terminologies in Hindi and other Indian languages. But there is no doubt that due to this a situation of anarchy was created in the field of technical terminology-making. To remove this anarchy, the Government of India had established the ‘Commission for Scientific and Technical Terminology’ (CSTT) at the central level. Adopting a coordinative approach, this Commission adopted some principles of technical terminology-making. Through these principles, an attempt was made to bring about uniformity and standardization in technical terms in order to remove anarchy in the field of technical terminology-making and at the same time reduce the complexity.

But in relation to the technical terminology developed by the CSTT in Hindi, the question of its being complex or difficult is often raised and there is a constant expectation of making simple technical terminologies so that complexity does not arise in the Hindi language. That's why it becomes necessary to consider whether the terminologies are complicated? Does the translator feel the complexity of using technical terminology while translating? And , what is the solution to this tangle of terminology?

If due consideration is given in the context of these questions, then this point will become clear. Technical terminology is specific in terms of composition, usage and meaning, sense and concept-communication as compared to general or colloquial vocabulary. Technical terminology may seem difficult to a person having general knowledge about Hindi because this type of vocabulary is related to subject-specific and area-specific and there is no need to use them in general practice. Therefore, it is natural for the general language-speaker to find the terminology difficult. This thing is applicable not only for Hindi language, but also in the context of English and other languages. Many Hindi terms, especially philosophical words, have found a place in the English dictionary. For example, '*maya*' (illusion), '*atman*' (self), '*mukti*' (liberation), '*bhakti*' (devotion), '*bhang*' (cannabis), '*bhajan*' (hymn), '*angrej*' (English), '*badmash*', '*gora*', '*jungle*', '*swadeshi*', '*tamasha*', '*dharma*', '*yatya*', '*chakra*', '*nirvan*', '*yoga*', '*pandit*', '*bindi*', '*dhoti*', '*ghee*', '*chatni*', '*sati*', '*baba*', '*roti*', '*chunni*', '*pan*', '*sari*', '*loot*' etc.

You have already studied in Unit 8 that technical terms are formed from these 'root words' and words which have special fertility. These types of words also facilitate to create many words related to one concept. You also know that the similar vocabulary of Sanskrit has been assimilated a lot in Indian languages in the form of *Tatsama* and *Tadbhav* words. In this situation, many definitions are developed by adopting the method of prefix, suffix, joining and compound in the corresponding (root) word of Sanskrit. There is also an interrelationship in the words formed by this method.

You know that terminologies are subject-specific and area-specific. That's why it can be difficult or complicated for those who do not have knowledge of that particular subject.

To solve the complexity of technical terms, it is necessary to use them repeatedly and to give them social acceptance. These may be included in the school curriculum as an attempt at social acceptance. If the technical terms are used intensively with the concept in the school curriculum, they can get social acceptance in a meaningful way. By the way, in this context it also becomes necessary that only the technical terms prescribed by the Commission for Scientific and Technical Terminology (CSTT) should be used. The Supreme Court of India in its landmark judgment in a case established the imperative of using the terminology created by the Commission. This order of the Supreme Court is of special importance in order to ensure the use of uniform standard terminology everywhere in the field of science in India. Due to its compliance, the situation of anarchy in the field of use of technical terminology will also end.

In fact the words themselves are neither easy nor difficult; they are familiar and unfamiliar. Familiar words are easy and unfamiliar words are difficult. If seemingly complex words are repeatedly exposed, their complexity and obscurity are lost and they begin to appear simple. Many complex and obscure technical terms that repeatedly come in front of us through various mediums have now become simple and understandable.

Thus it is clear that the translator should use the words prescribed by the CSTT. Along with this, special attention should be paid to the ease of use of technical words in translation. Translated forms of English terminologies can be used in transliterated or adapted form if they are too complex. In the use of terminologies, it is convenient to adopt a coordination or a middle path while avoiding stubbornness. Thus, the complexity of terminologies can be resolved.

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### **11.7 Let Us Sum Up**

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In this unit you first understood the need of technical terminologies in translation and then learned about terminologies as means of translation. Along with this, you must have also realized that what is the selection-process and relevance of technical terminologies in translation. You learned that the standard form is selected from the existing multiple forms of technical terminologies. You also learned that their synonyms cannot be used in place of technical terms. You also understood that the so-called complexity of terminologies tends to go away with use and circulation, because in reality words are not simple and difficult, but familiar and unfamiliar. Spontaneity should be brought in the selection and use of terminologies. Therefore, avoiding stubbornness, the path of coordinative approach should be adopted, which we also call the middle path.

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### **11.8 Exercises**

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1. Why technical terms needed in translation?
2. How do glossaries of technical terms prove to be means of translation?
3. What should be kept in mind while selecting terminologies in translation?
4. What are the things a translator has to keep in mind while selecting international terminologies?
5. What do you understand by comfortability of using use of technical terms in translation?
6. Throw light on the complexity of technical terminology in translation and its solutions.

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### **11.9 SOME USEFUL BOOKS**

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- -----, Glossary of Administrative Terms, Commission for Scientific and Technical Terminology (CSTT), New Delhi.
- -----, 1992. Comprehensive Glossary of Technical Terms : Humanities , Volumes 1 and 2, CSTT, New Delhi.

- -----, 1994. Comprehensive Glossary of Technical Terms : Sciences, Volumes 1 and 2, CSTT, New Delhi.
- -----, Pan-India Terminology (Linguistics), CSTT, New Delhi.
- -----, Fundamental Glossary of Geography, CSTT, New Delhi.
- -----, Definitional Dictionary of Psychology, CSTT, New Delhi.
- -----, Definitional Dictionary of Philosophy, CSTT, New Delhi.
- -----, Definitional Dictionary of Education, CSTT, New Delhi.
- -----, Definitional Dictionary of Social Work, CSTT, New Delhi.
- -----, Definitional Dictionary of Sociology, CSTT, New Delhi.
- -----, Definitional Dictionary of Library Sciences, CSTT, New Delhi.
- -----, Definitional Dictionary of Journalism, CSTT, New Delhi.
- -----, Definitional Dictionary of Linguistics, Volumes 1 and 2, CSTT, New Delhi.
- -----, Definitional Dictionary of Computer Sciences, CSTT, New Delhi.
- -----, Definitional Dictionary of Management Science, CSTT, New Delhi.
- -----, Definitional Dictionary of International Law, CSTT, New Delhi.
- Naravane , Vishwanath Dinkar (ed.). Bharatiya Vyavar Kosh, Triveni Sangam, Mumbai.
- Nagendra (Ed.), Manviki Paribhashik Kosh (Definitional Dictionary of Humanities), Rajkamal Prakashan, New Delhi.
- Apte, V.S. Sanskrit-Hindi Dictionary, Motilal Banarsidas Publishers, Delhi.
- Iyer, Vishwanath, 1990. *Anuvad Kala* (The Art of Translation), Prabhat Prakashan, Delhi.

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## **UNIT12 SOURCES AND CHALLENGES OF COLLECTING TECHNICAL TERMINOLOGIES**

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### **Structure**

- 12.0 Objectives
- 12.1 Introduction
- 12.2 Challenges of Collecting of Technical Terminologies
- 12.3 Sources of Compiling-Editing of Technical Terminologies of different fields
  - 12.3.1 Humanities-Social Sciences
  - 12.3.2 Science-Technology
  - 12.3.3 Administration
  - 12.3.4 Finance-Commerce-Banking-Insurance Sector
  - 12.3.5 Media
  - 12.3.6 Law
- 12.9 Let Us Sum Up
- 12.10 Suggested Readings

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### **12.0 Objectives**

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After going through this unit you should be able to :

- be familiar with the challenges related to collection of technical terminologies;
- know about the sources of compilation-editing of technical terminologies; and
- acquainted with the sources of technical terminologies related to Humanities-Social Sciences, Science & Technology, Finance-Commerce-Banking-Insurance, Media and Administration. .

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### **12.1 Introduction**

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Through Units 7-10 of this course, you will be able to understand aspects like ‘Concept of the Word’, ‘Technical Terminology: Nature, Types and Characteristics’, ‘Development and Standardization of Technical Terminology’, ‘Technical Terminology : Schools, Principles and Strategies’ have become familiar with. After knowing about the different dimensions of technical terminology, it must have become clear to you that what is the importance of technical terminology. To further clarify this importance as well as to highlight other aspects, Unit 11 discusses the terminologies in the context of translation. After studying this, it must have become clear to you that what is the necessity of terminology in translation. In this, where technical terminologies were considered as a means of translation, their use was also seen in the context of easiness and it was told that what difficulties are possible in the translation of technical words.

As you know, each language has its own functions, in the process of which a specific vocabulary is used. The form of this specific terminology is defined in itself. That’s why it is

called ‘Terminological Terminology’. Field of knowledge, science, technology, administration, commerce-trade etc. are many such fields which have their own specific terminology. All these fields form a vast repository of technical terminology. In this unit, you will be able to know the challenges and sources of technical terminologies in the fields of Humanities-Social Sciences, Science-Technology, Administration, Finance-Commerce-Banking, Media and Law out of these diverse fields of knowledge.

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## 12.2 Challenges of Collecting of Technical Terminologies

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Section 9.3 of Unit 9 of this course, while highlighting the ‘Tradition of Technical Terminology Making’, it has been clarified that efforts were made for its development in India before independence and after independence. These efforts were made individually as well as at the institutional level. Even after independence these efforts were made at individual and administrative level. In this area, Kashi Nagari Pracharini Sabha, Hindi Sahitya Sammelan, Bangiya Sahitya Parishad, Osmania University, Hindustani Culture Society etc. along with the efforts of educational-literary institutions, Dr. Raghuveer, The individual contribution of Pt. Sunderlal, Dr. Jafar Hasan, Mahesh Charan Singh, Date and Karve etc. is particularly noteworthy.

‘Tradition of Technical Terminology-Making’ (Section 9.3) also explains that arbitrary approaches to technical terminologies-making had created a chaos of different terminologies for the same concept. To remove this situation of anarchy, the Central Government of India constituted the ‘Commission for Scientific and Technical Terminology (CSTT)’ in the year 1961. After this, planned efforts were started in the direction of making a technical terminology. The Commission started functioning formally from January 1962 and terminologies of various subjects were prepared by it. The efforts being made by the commission are continuing even today.

The Commission for Scientific and Technical Terminology has authority in the field of terminologies-making. In all the fields of education, administration etc., there is a compulsion to use the standard terminology developed by the CSTT everywhere. But, in spite of this, some scholars have also prepared terminologies on various subjects. In such a situation, the situation of heterogeneity remained in the practice of terminology at the all-India level. In order to remove this heterogeneity, the Supreme Court of India has also decided that the technical terminologies prescribed by the CSTT should be followed at all-India level. (You have studied about this decision of the Supreme Court in section 9.4 of Unit 9 of this course.) This imperative is significant from the point of view of desirability, uniformity and equality of using standard terminology. This is the reason why the glossaries have been made the basis by the CSTT to compile and edit the selected terminologies of various subject areas. But during this some challenges also came to the fore. Before considering these sources, it would also be appropriate to consider the following challenges.

The problem was realized that even today, not only at the individual-institutional level, but also by various departments-offices at their respective levels, terminology-making work has been done and are going. Various government departments of the Government of India,

Public Sector Undertakings, Scientific Organizations, Banks and other agencies etc. have also published their own terminologies. Searching for the root cause of this, it is found that although the terminologies published by the Commission have been successful enough in achieving their objective, but according to the functions of hundreds of government departments-offices etc., there are variations of words and their meanings. It was impossible to incorporate variant and experiment-based differences. The nature of the functions performed by different departments are not the same. Due to the different background of their technical functions, no single glossary can be successful in providing synonyms for more or less all the technical terms related to the conduct of work-business of a particular office. Therefore now, apart from preparing glossaries according to the procedure and standards laid down by the Commission, the Government Departments, Public Sector Undertakings, Scientific Organizations, Banks and other agencies are also assisting in doing and publishing their respective departmental glossaries for inter-departmental use in their respective organizations. Apart from this, they are being prepared by various departments etc. themselves for the ease of day-to-day dealings.

Glossaries are also being prepared by Government Departments of Government of India, Public Sector Undertakings, Scientific Organizations, Banks and other agencies etc. themselves for inter-departmental use i.e. for internal distribution. In this context, 'Warehousing Glossary' of Central Warehousing Corporation, 'Official and Technical Glossary' of National Hydroelectric Power Corporation Limited and 'Direct Tax Glossary' of Income Tax Department, Directorate of Income Tax (Research, Statistics, Publication and Public Relations) of the Government of India are particularly noteworthy. The forms (synonyms) prescribed by the Commission for the terms included in these are included. In this context, the 'Power Glossary' of the Ministry of Power, Government of India, the 'Consolidated Scientific and Technical Glossary' of the Bureau of Indian Standards (BIS), the 'Standard Insurance Glossary' of The Oriental Insurance Company Limited can also be taken. These glossaries have either been prepared under the joint auspices of the CSTT or have been published with the approval of the Commission.

The terminology prepared by the particular office under the joint auspices of the Commission is also prepared on the basis of procedure and standards of the principles of word formation of the Commission. This task of terminology making is usually accomplished in different stages. First of all, different specific words used in the office are selected and compiled. After this, the Hindi equivalents of the selected words are determined and then they are approved by the experts of the CSTT. In this process of approval, the selected-compiled terminology is reviewed by organizing meetings with the experts of the Commission by the concerned department-office. While making terminology in this way, ease, simplicity, meaningfulness, appropriateness and utility are fully taken care of.

Similar efforts would have been made by other departments-offices etc. of the Government of India to develop technical terminologies. There is no doubt that this type of office-specific efforts will contribute significantly in bringing uniformity in translation work, while there will be encouragement for original writing in Hindi. With this, an inspiring and conducive environment will be created for the smooth development of the use of Hindi in office-specific

work. Needless to mention that the task of word formation is such that it never ends; it is an ongoing process. Due to the development taking place in the different domains knowledge in the country and rest of the world, new words are being coined daily. That's why it becomes necessary to prepare their equivalents in our language. That is why there is always a need to bring out revised editions by updating glossaries/glossaries etc.

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### **12.3 Sources of Compiling-Editing of Technical Terminologies of different fields**

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In the process of compiling and editing the technical terminologies, the problem may be experienced that which ones should be made the basis. In this regard, the glossaries prepared by the Commission for Scientific and Technical Terminology should be taken as the basis. According to the verdict of the Supreme Court of India in this regard, only the terminologies prepared and prescribed by the Commission are expected to be followed at all India level. Accordingly, following technical terminologies may be used as authentic sources :

1. Comprehensive Glossary of Technical Terms : Humanities (Volumes I and II)
2. Comprehensive Glossary of Technical Terms : Sciences (Volume I and II)
3. Glossary of Administrative Terminology
4. Administration : A Fundamental Glossary
5. Glossary of Journalism and Printing
6. Fundamental Glossary of Computer Science
7. Consolidated Glossary of Pan-Indian Terms

Last of these is the 'Consolidated Glossary of Pan-Indian Terms' is a glossary of CSTT, prepared in English-Roman-Hindi and has been published in the year 2002 under the aegis of Haryana Sahitya Akademi. It is, in fact, a consolidated glossary of Pan- Indian glossaries prepared for a total of 20 subjects under CSTT's 'Pan-Indian Terms' scheme. These subjects are Astronomy (1985), Economics and Commerce, Geography, Mathematics, Sociology and Cultural Anthropology (all in 1986); Physics (1987); Biology, Botany, Chemistry, Linguistics Oceanography and Geology (1990); 'Education, Psychology and Psychiatry', Statistics (1991); Experimental Geography (1992); Civil Engineering , Human Geography (1993); Geology (1995); and Medicine ( 1996) etc. You have already studied about the need, development and general aspects of identifying the 'Pan-Indian Terms' in Unit 10, Section 10.5 of this course.

The question must be arising in your mind that why separate existence of 'Administrative Terminology' and 'A Fundamental Glossary of Administration' mentioned on the third and fourth order? Here we would like to make it clear to you that the entries included in 'A Fundamental Glossary of Administration' by the Commission is basically taken from the pre-published administrative glossaries. The CSTT has published this glossary under the project on development of fundamental technical terminology.

Now, let us learn about the sources of subject-wise technical terminologies.

#### **12.3.1 Humanities-Social Science**

The Commission for Scientific and Technical Terminology vetted, revised and updated its editions of volumes I and II of the 'Comprehensive Glossary of Technical Terms :

Humanities’ and published it in the year 1992 (Computer Database). Earlier, the Commission had published the first edition of this glossary in 1973.

### **12.3.2 Science-Technology**

The CSTT revised volumes I and II of the ‘Comprehensive Glossary of Technical Terms : Science’ in the year 1994 . Like the ‘Comprehensive Glossary of Technical Terms : humanities’, the first edition of this Science-Technology related glossary was also published by the Commission in 1973. Apart from this, a glossary related to technology i.e. ‘Fundamental Glossary of Computer Science’ was also published in the year 1996 by the Commission.

### **12.3.3 Administration**

The Commission for Scientific and Technical Terminology published a ‘Glossary of Administrative Terms’ also. The Commission has published this glossary separately according to English-Hindi and Hindi-English glossary. This vocabulary is most in demand in the field of administration. There is a continuous increase in the level of administrative terms in the field of administration. That is why there is a need to continuously update it. To meet this requirement, the Commission keeps revising-amending this glossary regularly. Till the year 2016, eight revised and reprinted editions of this ‘Glossary of Administrative Terms’ (English-Hindi) had been published.

Further , as explained in section 12.2.2 of this Unit, the Commission has included entries from pre-published administrative glossaries in the ‘Administration : A Fundamental Glossary’ published in the year 2008. This glossary has been prepared to meet the need for basic administrative terminology.

### **12.3.4 Finance-Commerce-Banking-Insurance Sector**

It is clear that various subject areas like Finance and Commerce etc. are included under this category. ‘Comprehensive Glossary of Terminology : Humanities’ published by the Commission for Scientific and Technical Terminology is the main source of technical terms related to these fields. Apart from this glossary, the Commission published Commerce glossary’, ‘Pan-Indian Glossary : Economics and Commerce’; and ‘Stock Market and Allied Glossary’. Along with this, the English-Hindi Glossary of Direct Tax published in the year 2006 by the Directorate of Income Tax (Research, Statistics, Publication and Public Relations) of the Income Tax Department of Government of India has also source to be used. It is worth mentioning here that in this glossary of the Income Tax Department, the terms approved by the Ministry of Law and the Commission for Scientific and Technical Terminology have been used, as well as simple words of common use in Hindi have also been included as far as possible.

The ‘Comprehensive Glossary of Technical Terms : Humanities’ includes thousands of words related to Banking, apart from Finance and Commerce. Apart from this, the Reserve Bank of India also provides a separate ‘Banking Terminology’. First published in the year 1980, seven editions of this glossary have been published till the year 2012. Apart from this, some other banks have also prepared their own terminologies, which are more or less based on the

Reserve Bank of India's glossary. Generally all the banks are using the 'Banking Terminology' prepared by the Reserve Bank of India.

Similar is the case with Insurance related terminology. Many technical terms related to insurance are found in the 'Comprehensive Glossary of Technical Terms : Humanities' of CSTT. In addition, glossaries such as 'Standard Insurance Glossary' published for the first time in the year 2012 under the joint auspices of the CSTT and The Oriental Insurance Company Limited are also found.

### **12.3.5 Media**

For media related technical terminology, 'Glossary of Journalism and Printing' published by the Commission for Scientific and Technical Terminology should be consulted. It was published by the Commission in the year 1998. Apart from this, the 'Comprehensive Glossary of Technical Terms : Humanities', prepared by the Commission may also be consulted. The basic reason for this is that many technical terms related to Communication have also been compiled in this glossary. It is basically related to Mass Communication. This glossary has been prepared after reviewing and approving the terms to the related-subjects by participating in the meetings and seminars of the Expert Advisory Committee.

### **12.3.6 Law**

The Legislative Department (Official Language Division) of the Ministry of Law, Government of India, has been prepared and published English-Hindi Glossary of Law in 2001. This is the sixth edition of the legal terms. Prior to this, the first edition of the glossary of Law was published in 1970. After this, a total of five revised editions were published in 1979, 1983, 1988 and 1992. No new edition of legal terminology has been published after the year 2001.

As already mentioned, making of technical terminologies of different fields is an ongoing process. Take the help of these glossaries you may come to know new words and their synonyms.

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## **12.9 Let Us Sum Up**

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Terminology is used to perform different functions of each language. Different fields of knowledge – humanities, social sciences, science, technology, administration, commerce-trade etc. have their own specific terminology. In this unit, you have been discussed about the challenges and sources of collecting technical terminologies of the Humanities-Social Sciences, Science-Technology, Administration, Finance-Commerce-Banking, Media and Law.

The Commission for Scientific and Technical Terminology has an authority in the field of technical terminology development. The Supreme Court has also given a decision that the terminology prescribed by the Commission should be followed at all India level. Apart from the Commission, various government departments of the Government of India, public sector undertakings, scientific organizations, banks and other agencies, etc. compiled their terminologies. The terminologies of the Commission have been sufficient in achieving their

objective, but it was impossible to include different and usage-based distinctions of words and their meanings-synonyms according to the functions of hundreds of government departments-offices etc. That's why they are being prepared for internal distribution by various departments etc. themselves. These have either been prepared under the joint auspices of the Commission or have been published with their approval. These are prepared in accordance with the process and standards and collaboration of the Commission's word formation principles. By the way, ease, simplicity, meaningfulness, appropriateness and usefulness are fully taken care of while preparing the vocabulary by them. Such efforts contribute significantly in bringing uniformity in translation work and encourage original writing in Hindi. Undoubtedly, this will create an inspiring and conducive environment for the smooth development of the use of Hindi in official work.

Development of technical terminologies, as already mentioned, is an ongoing process. So there is always a need to bring out revised versions of them. Take the help of these glossaries to know new words and their synonyms.

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### **12.10 Exercises**

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1. What are the challenges of collecting Technical Terminologies related to different fields?
2. What are the different sources of compiling-editing of Technical Terminologies of Humanities and Social Sciences?
3. What are the different sources of compiling-editing of Technical Terminologies related to Finance-Commerce-Banking and Insurance Sector?

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### **12.10 Suggested Readings**

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