

A REVIEW OF TERMINOLOGICAL WORK BEING DONE IN INDIAN LANGUAGES

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BACKGROUND AND NECESSITY

The history of technical terminology in India can be traced back to the Vedic period when Sanskrit - the then lingua franca of the elite - had created a rich storehouse of technical terminology in various fields of science, like Ayurveda (the ancient Hindu art of medicine), astronomy, mathematics, chemistry etc. But, with the disappearance of Sanskrit from practical life and emergence of a number of Indian languages as a means of communication, a need was felt to enrich these languages in order to be able to cope with the fast development of science and technology.

To the Indian scientists, 200 years of British rule provided exposure to Western science. But the sole dependence on English for scientific know-how was found to be inadequate, since English only accounts for about 50% of the world's scientific literature. So it became vitally important for a developing country like India to have access to scientific information in various other foreign languages(1). As a result, translation from foreign languages into English and Indian languages received a fillip in India. Though English remains a co-official language of India along with Hindi, various state governments have also introduced regional languages as the medium of education at secondary as well as graduate level. In order to prepare text books for schools and colleges, it became necessary to create and standardise technical terms in Indian languages.

According to reports available(2) early attempts had been made by Indian scholars to standardise European terminology in Indian languages. Perhaps the first work of this nature was published by Rajendra La Mitra in 1877 in a booklet, "A Scheme for Rendering European Scientific Terms into Vernaculars of India". According to him, all European terms except the names of objects, equipment, devices and binomial names should be translated into Indian languages.

Mention may also be made of the work of Professor Tribhuvan Kelyandas Gajjar who was commissioned by the Maharaja of Baroda to produce scientific literature in Indian languages. He also put forward a scheme for compiling a multilingual technical dictionary.

Then there was Kashi Nagri Pracharani Sabha who also made considerable contributions in this field by publishing several pamphlets on scientific terminology in Hindi, including an 11 volume Hindi dictionary and a 15 volume encyclopaedia in Hindi.

Though this kind of individual effort certainly deserves praise, it did not yield the desired results due to lack of proper coordination, differences in principle and approaches and lack of use etc. For this reason, it became a historical necessity for a country like India with a vast population speaking 15 languages and as many dialects to embark on terminology work to help in the development of scientific and technical literature in Indian languages. The entire gamut of terminology formation in Indian languages was taken over by the Government of India. In 1950, a Board of Scientific Terminology was set up under the Ministry of Education, which was later changed into Commission for Scientific and Technical Terminology (CSTT) by Presidential Order in 1961.

The problem was not solved with the formation of the CSTT as there were too many organisations and individuals advocating completely different approaches. This was aptly summed up by Dr P Gopal Sharma in his book: "A Study on the Terminology of Social Sciences". He categorised these approaches into four groups: 1. "Retentionist", 2. "Radicalist", 3. "Experimentalist" and 4. "Synthecalist". While the retentionists advocated the wholesale retention of most of the English technical terms as such, the radicalists campaigned for translation of English technical terms by using Sanskrit roots, without any exception. The experimentalists argued in favour of coining hybrid words by taking roots from Sanskrit, Persian, Arabic and English and joining Hindustani suffixes and prefixes. In the midst of such contradictions between the purist tendencies and liberal borrowings, between the patriotic standpoint and Western influence, the synthecalist school which found its followers in the Board of Terminology took a more balanced view of the situation.

Against this background, the CSTT started work and appointed advisory committees for different disciplines, e.g. social sciences, natural sciences, agricultural sciences, etc. The Committee members were eminent scientists, linguists, teachers and lexicographers.

The scope of the work was as follows:

1. To formulate guidelines for the standardisation of terminology in Hindi and other regional languages;
2. To review the numerous technical terms existing in Hindi for standardisation;
3. To coordinate the terms prepared by the Central Hindi Directorate with other non-Hindi terminology so as to create the necessary base for Pan-Indian terminology.

METHODOLOGY OF TERMINOLOGY FORMULATION

As in European languages, the technical names (nomenclature) are generally transliterated into Indian languages, provided the given name does not exist in the target language. In some cases where phonetic requirements of the target language do not permit this translation, adoption or adaption of technical names is resorted to.

In line with the above, the guidelines followed by the CSTT for the formation of scientific and technical terminology in Indian languages were the following(2):

1. International terms should be retained as such and only transliteration into Hindi and other regional languages is to be provided. This transliteration should also aim at maximum approximation of source-language pronunciation.
2. Conceptual terms should generally be translated.
3. Pan-Indian equivalents should be coined from Sanskrit roots.
4. Indigenous terms existing in Indian languages should be retained.
5. Loan words from diverse sources like English, Portuguese, French, Arabic, etc. which have gained currency in Indian languages should be retained.
6. Hybrid forms may be adopted in Indian scientific terminology.

While coining Pan-Indian equivalents, literal translation of technical terms using Sanskrit roots plays a significant role. Sometimes literal translation of terms is not easy and the target term is either absurd or creates confusion. In such instances, attempts are made either to borrow or adopt a term from the international stock. Borrowing is generally done when the target language cannot provide an acceptable and exact equivalent of the foreign language term. The foreign terms based on Greek and Latin roots are generally considered international terms and are accepted as such.

Problems arise when none of the above methods are found to be suitable for the formation of a term. In that case, a completely new term is coined by "assigning a new meaning to an already existing term" or by "taking into account the characteristics of the object to be coined, i.e. shape, design, properties" etc. Here, special attention is paid to the genus-species relationship of the target language.

HINDI TERMINOLOGY

Like modern terminology in all the developing languages, Hindi terminology also suffered on two accounts: 1) absence of scientific papers originally written in this language and 2) lack of extensive use of terminology formed by artificial methods. This is true for all the languages of Asia and Africa.

The Commission for Scientific and Technical Terminology (CSTT) is responsible for the formation, evolution and coordination of technical terminology in Hindi. It has evolved a 'Conspectus of Principles' which mainly includes the following: International terms like the names of elements, chemical, compounds, physical constants, mathematical equations and formulations, units of measurement and weights, proper nouns, binomial nomenclature in natural sciences, numerals, symbols; common words like Radio, TV are transliterated.

Likewise hybrid terms - 'ionikaran' for ionisation, 'oxikaran' for oxidation, 'pharavari' for February etc. - are freely coined.

Conceptual terms are usually translated by using Sanskrit roots. Examples like 'Urja' for energy, 'Siksha' for education, 'Krishi' for agriculture, 'Shira' for vein, 'Dhamni' for artery, 'Udyog' for industry etc. can be cited.

Problems arose in choosing terms from a number of synonyms. In such cases, the committees had to select the equivalent which most closely approximated the actual concept. Latin and Greek prefixes were likewise used, especially in making hybrid terms. In case of objects and commonly known words, the CSTT decided to use the prevalent terms.

A considerable amount of lexicographical work has already been done in Hindi. A number of English-Hindi and Hindi-English dictionaries have been published. Progress has also been made in lexicographical work in foreign languages - Hindi and vice versa. Already there are Hindi-Russian/German dictionaries compiled by Indian as well as foreign lexicographers. Mention may be made of the recent German-Hindi dictionary with 50,000 entries - a joint cooperation of the Asian Sciences Department of Humboldt University, Berlin, GDR and the Central Hindi Directorate, India. The work started in 1973, but had a temporary setback, after a GDR scholar, Dr Helmut Nespital, who was mainly responsible for the work defected to West Germany while on a visit to India. The dictionary is expected to be published in 1983. In addition, there are also a few German/Russian-Hindi dictionaries available like the German-Hindi Kosh by K M Sharma; Hindi-Deutsch Wörterbuch by Erika Klemm; Hindi-Rusi Chatropayogi Shabdkos by D G Ustiferov or the Hindi-Rusi Shabdkosh (2 volumes) by A S Barkhurdar and V M Vascrovni.

PRESENT POSITION IN OTHER INDIAN LANGUAGES

Most of the literature that is available in the area of standardisation of technical terms in Indian language deals with Hindi. With the introduction of regional languages as the medium of education in almost all the Indian states, terminology work in regional languages has started with great enthusiasm. Scientific and technical books are translated and written in these languages. Each of these languages has to its credit several published terminological glossaries in various scientific disciplines. Encyclopaedias are also available in various regional languages. At this point, I would like briefly to mention the present position in respect of Bengali and Telugu terminology.

Among the languages of the Indic group, Bengali has long and great literary traditions. Though the birth of Bengali scientific literature can be traced back to the end of nineteenth century, hardly any coordinated effort has been made to standardise Bengali scientific terminology. Bengali scientific terms have mostly been coined by individual authors (3), and as a result this work has suffered from a lack of continuity. In some cases the terms coined by authors gained currency in the language and in some cases they became obsolete. Individuals like Rajshekhar Basu, and others like the Bangiya Sahitya Parishad, or the University of Calcutta have tried to compile scientific dictionaries, but these never went beyond a few thousand terms.

Translation of German, French and Russian literary works has mostly been carried out via English.

It is reported that the Bangla Akademy, Dacca (Bangladesh), has brought out separate terminological dictionaries for a number of scientific disciplines, but these are not readily available in India.

In the absence of a proper coordinating agency, uncontrolled coinage of scientific terms by individual authors has led to very chaotic conditions in Bengali, in which synonyms and homonyms are widely prevalent.

The problem of standardisation can only be solved by the intervention of a coordinating agency comprising scientists, teachers, linguists and lexicographers. This committee, in association with CSTT, should scan the available Bengali scientific literature and periodicals to come to an agreement for selecting one equivalent for one concept. There is no dearth of scientific terminology in Bengali, since there are a number of periodicals published in various fields of science and technology. Bengali scientific and technical books are also available at graduate and postgraduate levels. But, a good Bengali scientific-technical dictionary has not yet been published.

The programme of formation, evolution and standardisation of Telugu scientific terms was launched by the Telugu Akademi in 1969-70, following the State Government's decision to entrust the Akademi with the job of producing text books in Telugu.

The guidelines (4) followed were:

1. "Telugu terms which are already in use in curricula should be retained."
2. "Terms evolved by CSTT should be adopted/adapted as far as possible."
3. "International terms should be transliterated."
4. "Coining of new terms should be avoided to the extent possible."

According to reports available, about 80,000 technical terms have so far been standardised for use in text books.

The Akademi has also brought out glossaries in the fields of physics, chemistry, zoology, botany, mathematics, biology, geology, geography, sociology etc. for intermediate and graduate-level text books. Work is in progress to compile technical (English-Telugu) dictionaries for zoology and chemistry. Telugu Bhasha Samithi has also brought out an encyclopaedia running into 14 volumes.

Several other regional academic bodies have also launched similar programmes of terminology formation, because without a proper terminology base it would be impossible to prepare standard text books in the language for schools and colleges.

PAN-INDIAN TERMINOLOGY

Since a number of bodies were engaged in terminology work, it was feared that each regional language would come up with different equivalents for one concept. This kind of uncontrolled growth of technical terms would, in the future, hinder the trans-regional communication between scientists and technologists. The concept of Pan-Indian terminology was, therefore, mooted to facilitate inter-regional communication. This was also strengthened by the fact that most of the Indian languages have common terminology roots in Sanskrit. It was also felt that Pan-Indian terminology would be the panacea for facilitating inter- and intra-regional communication and thus, will be a positive step towards national integration.

There is no denying that an indigenous language or dialect can help the scientific development of a regional community. But uniformity is necessary in the wider interest. It is imperative for scientists and technicians to go beyond dialectical and regional boundaries. Their working language should have a common base for communication.

The Nature of Pan-Indian Terminology

The concept of Pan Indian terminology explores ways and means of selecting lexical devices for scientific communication on a trans-regional basis. Conscious efforts are being made to ensure that Pan-Indian terminology does not become incongruous in relation to regional grammar and lexicon. A certain amount of flexibility is always permissible when adapting this terminology into the respective regional languages. As pointed out by Dr P Gopal Sharma (5), the following can be listed as major steps taken towards achieving this objective:

1. Uniformity in spelling and pronunciation of international terms.
2. Extensive usage of Sanskrit-based terms without conflicting with the established tradition of the regional language.
3. In cases where Pan-Indian terms run counter to the accepted tradition of a particular regional language, they can be suitably modified by using regional grammatical devices.
4. The possibility of using regional-bound prefixes and suffixes to construct a term or expression should be seriously examined.
5. Last but not least, the Pan-Indian terms must be properly assimilated into the regional languages and they should not amount to borrowing.

Considerable work is being done in this regard by the Central Hindi Directorate which is the coordinating body. Terms from specific areas are chosen and circulated to various regional academic bodies to obtain equivalents in the respective regional languages. All-India seminars of eminent scientists, lexicographers, linguists and representatives of regional bodies are then organised to select the Pan-Indian terminology for a particular area for use in text books.

It is hoped that given proper encouragement, Pan-Indian terminology will provide a suitable lexical environment for inter- and intra-regional communication in India and will go a long way towards solving the problem of standardisation of terminology in Indian languages. It will also create a better understanding among scientists coming from different regions because of a common terminology core.

CONCLUSION

Hindi terminology is mainly coined from the transliteration of international terms and translation by using Sanskrit roots. The extent of such terms in Hindi is about 70%, the remaining 30% are borrowings from other Indian or foreign languages and local Hindi words. Since all the Indian languages (except Tamil, Telugu, Kannada and Malayalam) are closely related to Sanskrit, 70% of terminology has easily become common. Mutual borrowing is also continuously increasing this percentage. Even Telugu, Tamil, Kannada and Malayalam have depended to a very large extent on Sanskrit for their lexical enrichment. Pan-Indian terminology has a soft ground in these languages too.

Considering the above, the case for Pan-Indian terminology is overwhelming, and the aim should be to achieve inter-regional communication without regional bias. The whole purpose of inter-regional communicability will be defeated if undue favour is shown to any particular linguistic community. Uniformity without linguistic bias should be the sine-qua-non. Extensive usage of Sanskrit-based terms and transliteration of international nomenclature would be the ideal remedy to appease the different linguistic communities. Allowance should also be made to accept regional-based terms, at least in a restricted sense, in cases where Pan-Indian terms are unacceptable in a specific language.

Though the CSTT has been working towards the standardisation of terminology in Indian languages, a much felt need is the creation of a national terminology centre which should be the coordinating body for collecting, storing and disseminating foreign-language scientific-technical terms and their Indian equivalents among the various translation-service centres of India. Once this has materialised, the day will not be far off when good technical dictionaries will be available in almost all the Indian languages and no speaker of any Indian language need resort to the liberal use of English in technical discussions.

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