

## THE ROLE OF LANGUAGE STANDARDISATION IN THE COINING OF TECHNICAL TERMS IN BAHASA MALAYSIA

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In the year 1974, when one talks of the standardisation of Bahasa Malaysia in the context of the coining of technical terms, one cannot in any way avoid the question of the standardisation of Bahasa Malaysia and Bahasa Indonesia. The coining of technical terms in Malaysia is no longer the sole business of Malaysia but it also incorporates that of Indonesia. This has been so since December 1972 when the first meeting between Malaysia and Indonesia on the standardisation of technical terms in both the countries, was held in Kuala Lumpur. This meeting was to be followed by others held alternately in Indonesia and Malaysia.

The Malaysia-Indonesia efforts to standardise the technical terms is a follow-up of the culminating success achieved by the two countries on a standard spelling system in August 1972. In the context of the Language Agreement between Malaysia and Indonesia, standardisation of Bahasa Malaysia in the field of technical terms is of two levels: one is at the national level and the other is at the supranational level.

The standardisation of technical terms is in itself part of language standardisation. From the point of view of theoretical linguistics, technical terms are a set of lexical items whose distribution in usage is restricted to particular registers only. As such is the case, the standardisation of technical terms constitute the standardisation of the elements that compose lexical terms. As a technical term does not always consist of a word per se, but may also be represented by a sequence of words in the form of reduplications, compounds and phrases, the elements of a technical term are the phonemes and the words. Coupled with this, the construction of a technical term can either consist of the construction of a word or that of a phrase. Hence the coining and

the standardisation of technical terms from the language standardisation point of view means:

- (a) the standardisation of the phonological system of the language which is interrelated with the standardisation of the spelling system;
- (b) the standardisation of the grammar of the language.

The standardisation of the phonological system and that of the spelling system is said to be interrelated with one another due to the fact that the spelling system being a visual system should represent as accurate a picture as it can in visual symbols the phonological aspects of the language concerned. It is not possible to work towards a standardised spelling system without first reaching an agreement on the acceptables and the non-acceptables in a phonological system of a language. This has been proven in the efforts to have a standardised spelling system.

The absence of standardised phonological and spelling systems proved to be the greatest obstacle in the smooth flow of the coining of technical terms in Bahasa Malaysia in the years 1956 - 1972. The obstacle was manifested in the outright unwillingness of the parties concerned in the coining of the technical terms, to accept any word whose phonological realisation showed any little sign of 'UnMalayness'. Hence, phonological innovations in the form of new loan phonemes, new sequences and new distribution types even of native Malay phonemes were shunned at. As technical terms in the various sciences were something new to the Malay language not only in their existence per se but also in the concepts they uphold, it was not an easy task looking for their equivalents in the Malay language.

Linguistic purism is an attitude unnatural to any language society especially one whose members are virtually all the time in contact with members of other language societies. Hence, the puristic attitude of certain Malays in Malaysia during the period concerned was contrary to the natural development of a language. Besides that, the puristic trend projecting most prominently in the years 1956 - 1966 was paradoxical to the development that had been undergone by the Malay language since the coming of the Hindus and the Arabs to the Malay Archipelago. The Hindu and Arabic influences in the culture of the Malays had invariably brought about innovations into the Malay phonological system in terms of the introduction of new phonemes and phonological structures from Sanskrit and Arabic. Nevertheless, to the purists of the Malay language, such loan elements and structures were usually Malay due to their long-time membership in the Malay linguistic inventory, such that their existence as loans never surfaced. On the other hand, any inno-

vation that came from English or any other European language was considered an outright violation of the purity of the Malay language. This differential attitude towards Sanskrit and Arabic as against English and other European languages is explicable in terms of the depth of influence that the Hindu and the Arabic civilisations had on the Malay civilisation as a whole, compared to the superficial influence exercised by the Europeans. The Hindu and the Arabic influences are manifested in both material and spiritual culture such that these influences had transformed by way of assimilation from just mere alien elements into ones which were deemed local and indigenous in nature. The European influence never succeeded in going further than the material culture and, later on, the sciences which it brought about to the Malay world. It had never exerted much influence in the Malay life.

The conservative, puristic attitude towards language projected in the coining of technical terms did not go unchallenged. This attitude upheld mostly by Malay school teachers and old writers received opposition from a group of people who opted for necessary innovations in the language. This group consisted of trained linguists whose opinions on the coining of technical terms were supported by the scientists and the professionals in the various fields. However, as the authority for the coining of technical terms was assigned by the government to the Dewan Bahasa dan Pustaka (The Language and Literary Agency) and as the thinking of the Dewan at that time was one of conservatism and purism (not without Sanskrit and Arabic), the language attitude that characterised this group held sway over the coining of technical terms. As such technical terms from foreign languages were as far as possible given their Bahasa Malaysia equivalents by employing various means:

- (a) By looking for the exact or almost exact correspondences in Bahasa Malaysia.
- (b) By resorting to loan-translating or loan-shifting, when (a) failed.
- (c) By adapting the foreign term in such a way that the word sounded really Malay, in the event of the failures of methods (a) and (b).

Method (c) seems very sound as a method of bringing in foreign technical terms into the language but the phonological adaptation of the words such that the alienness did not surface either in pronunciation or in spelling, made the whole process somewhat repulsive to the people involved in the use of the technical terms, namely the scientists and the professionals. This means that when such technical terms were coined and distributed to the public, they received mixed reactions.

The negative reaction was stronger than the positive one. Such was the case that although the technical terms were supposed to be sanctioned by the government's highest language authority, the Dewan Bahasa dan Pustaka, only a small percentage of these terms ever entered the technical language currency. Various bodies being unsatisfied with the technical terms issued by the Dewan Bahasa dan Pustaka began creating and issuing their own terms for their purposes. Such bodies were the universities and other institutions of higher learning, the Ministry of Education itself, the publishers and individuals involved in the teaching of the various subjects or in the producing of textbooks for the various subjects. The need for a standardisation of the technical terms was greatly felt but the situation was uncontrollable. The universities, namely the University of Malaya, the National University of Malaysia and Science University of Malaysia attempted and managed to achieve some degree of standardisation in the coining of the technical terms among themselves. Nevertheless, the standardisation at the university level did not solve the major and the most urgent problem the country was facing in the way of scientific terminology, and that was the standardisation at the school level.

The standardisation of the scientific terminology at the level of the schools is considered major and more urgent than that at the university level, because the implementation of the National Language, the Bahasa Malaysia, as the main medium of instruction in the schools has already been under way. At the university level, the full implementation of this language policy is expected to take place only in 1978 for the arts stream and in 1983 for all the streams. The urgency for the standardisation of the technical terms is more so when the important examinations in the school system, or the so-called public examinations, were centrally administered from the Ministry of Education's Examination Syndicate.

As said earlier, the break-through in the standardisation of the scientific terms came about only after the formulation of the common spelling system accepted by both Malaysia and Indonesia. The system allows for certain phonological innovations which facilitated the path towards a more feasible set of technical terms with a greater chance of getting accepted by all sectors in the society.

In the way of the membership of the system of phonemes of Bahasa Malaysia, the common spelling system while confirming the existence of loan-phonemes /z, f, ŝ, x/ (written as z, f, sy and kh), also admits a new member and that is the v phoneme. The admittance of this phoneme represented by the same symbol in the spelling system once and for all removes any consideration in the replacing of this symbol by b or f in

the technical terms in which it is constituted as an element. The decision on either b, f or v for the foreign v especially in the word-final position and the conclusion thereof was always subject for debate in the years previous to the implementation of the common spelling system. Due to the lack of agreement on the choice of b or f for v, certain words came to be spelt in two ways. In the non-final position of a word, the choice falls on v or b, for example, novel, nobel; universiti, unibersiti; akitiviti, aktibiti etc. In the word-final position, the choice between b and f was left free to the public. Hence the rise and spread of such forms as positib, positif; negatib, negatif; aktib, aktif etc. With the acceptance of v in the standard spelling system, the problem of its existence in the non-final position of words is solved. The agreement between Malaysia and Indonesia in the rules for the coining of scientific terms confirms that v in such positions will remain v. However, in the final position of a word, the v in foreign terms is replaced by f in Bahasa Malaysia. This is simply due to the fact that in English (from or via which these scientific terms come into Bahasa Malaysia), v is pronounced as an unvoiced consonant in the final position, and Malaysians with English as their second language are generally influenced greatly by the English phonetics in their transfer of foreign terms from the English language.

The syllable structure of Bahasa Malaysia has also undergone innovations recognised by the common spelling system. Such innovations emerge with the recognition of the existence of consonant clusters at the initial and final positions of a word. In the Malay phonological inventory, consonant clusters in the two positions mentioned above were non-existent, while consonant clusters in the medial position were predominantly those of the homorganic nasal-oral type. The influence of Sanskrit and Arabic had added in a few other types of consonant clusters and this process of adding cluster-types became more vigorous with the introduction of scientific terms from foreign languages into Bahasa Malaysia. Even then, previous to the acceptance of the common spelling system certain medial clusters do not seem to have a general acceptance among the users of Bahasa Malaysia. Such clusters are normally those with the structure stop + r, for example, tr and dr. Although the common spelling system confirms the acceptability of these clusters, the spelling of words especially the old loan words with these clusters has not been standardised yet. Such words are sastera or sastra; putera or putra; paderi or padri etc. Nevertheless, new loans, particularly the technical terms, will all be spelt without the schwa in between the components of the clusters.

Initial consonant clusters got introduced into Bahasa Malaysia much later than the medial clusters mentioned above. The first set of these initial clusters were also those with the structure stop + liquida. As with the medial clusters discussed above, these clusters also faced two types of treatment; one was that they were left intact, and the other, they became neutralised with the insertion of the schwa in between the components. Hence such examples of non-standardised spelling were found: *proses*, *peroses*; *projek*, *perojek*; *blok*, *belok* etc. The common spelling system has played its role in the depopularisation of the insertion of the schwa in between the components of the clusters. As such, at the present moment the spelling of words with initial clusters has been widely accepted.

Many a technical term taken from or via English indicate the presence of consonant clusters in the word-final position. The agreement reached on the common spelling system was rather vague on this. It was only when the Malaysian and the Indonesian committees had their fourth meeting on the coining of technical terms held in Semarang, Central Java, from the 24th to the 26th of June 1974, that definite rules were given in the treatment of consonant clusters in the word-final position. Prior to this, the treatment of such clusters had been variegated stemming from two differing attitudes: one is the conservative attitude, and the other the adaptive attitude. (Cf. Asmah Haji Omar, *Masaalah Konsonan - Rangkap Akhir-Kata Dalam Peristilahan Bahasa Malaysia*, paper submitted to Majlis Bahasa Malaysia-Indonssia IV, Semarang, Indonesia, 24-26 June, 1974.)

The conservative attitude was an attitude which disapproved of anything that deviated from the phonological system that was supposed to be purely the variation of Malay untarnished by any outside influence. When this attitude became the rule, every effort was made to neutralise every final consonant cluster by any of these two methods: -

- (1) By deleting one or more of the components such that only one single consonant remained.
- (2) By inserting a vowel in between the components of the clusters. (See Asmah Haji Omar 1974)

With the first method, it was seen that at times it was the first component that underwent deletion, at other times, it was the second component. Cluster reduction by the deletion of the first or the second component of the cluster was done according to the fancy of the user involved. He will drop one or the other of the consonants based on his euphonic perception. Hence, there arose examples like the ones following: -

(a) Those indicating the deletion of the first component.

ENGLISH		BAHASA MALAYSIA
<i>uniform</i>	→	unifom
<i>modern</i>	→	moden
<i>passport</i>	→	paspot
<i>import</i>	→	impot

(b) Those which indicate the deletion of the second component.

ENGLISH		BAHASA MALAYSIA
<i>communist</i>	→	komunis
<i>accountant</i>	→	akauntan
<i>novelist</i>	→	nobelis
<i>variant</i>	→	varian
<i>consonant</i>	→	konsonan

The examples show that the deletion of the first component occurred if this component was represented by r. Otherwise deletion affected the second component of the cluster.

The second method of cluster reduction which usually involved the insertion of the schwa vowel was based on the phonetic realisation of the consonant clusters concerned. Hence the change from English to Bahasa Malaysia for certain words as shown below: -

ENGLISH		BAHASA MALAYSIA
<i>communism</i>	→	komunizem
<i>film</i>	→	filem

At one time the presence of the schwa vowel in closed final syllables was frowned at, namely by those who wanted to protect the purity of Malay phonology. As such, the schwa was replaced by a to form such words as komunizam, filam etc. The passing of time has shown that cluster reduction such as represented in the types described above is not favoured, particularly by those who are directly involved in the usage of the technical terms.

Adaptive attitude in the context of the coining of technical terms means the attitude which is open to innovation when the situation demands it. This means that whilst the rules of the Malay phonology form the guiding principles in the coining of the technical terms, priority should also be given to the need for a suitable scientific terminology which can be accounted for in terms of their linguistic constructions as well as in terms of their suitability in the context of the particular sciences in which their usage is most expected. This adaptive attitude entails the formulation of phonological rules in the treatment of the word-final consonant clusters. Without such rules, standardisation of this aspect of language will not be achieved.

The acceptance of the foreign consonant clusters in their various distributions have undoubtedly altered the syllable structure of Bahasa Malaysia. The agreement between Malaysia and Indonesia has indirectly endorsed the acceptance of the change in the syllable structure in the phonologies of both Bahasa Malaysia and Bahasa Indonesia. Nevertheless, the change in the syllable structure is not wholly due to the receptive attitude towards the foreign consonant clusters but is also brought about by a new type of phonological distribution given to an inventory phoneme. The schwa phoneme in the Bahasa Malaysia phonological inventory had never before functioned as the syllable nucleus in the closed final syllable of a word. Certain loan words indicate the presence of this vowel with the function mentioned above. Examples are *sistem*, *introvert*, *komputer* etc. The presence of such words in the Bahasa Malaysia of today indicates an innovative process going on in the Bahasa Malaysia phonology. This particular innovative process, as was the case with the consonant clusters, has facilitated the task of adapting the foreign technical terms and has paved the smooth path towards the standardisation of language. Previous to this, the schwa in the closed word-final syllable of scientific terms received various kinds of treatment. On one hand, the vowel in the Bahasa Malaysia technical term remained intact in the position it has been occupying before entering Bahasa Malaysia. On the other hand, the vowel underwent a replacement by some other vowel which in Bahasa Malaysia was allowed to function as the nucleus of the closed final syllable of a word. This vowel was either *a* or *i*. Thus the word *system*, when taken into Bahasa Malaysia was spelt in two different ways: *sistem* and *sistim*. The word *computer* likewise had two different orthographic representations: *komputer* and *komputar*.

As the great majority of the technical terms existing in Bahasa Malaysia are loanwords, it can be said that the admission of such words into Bahasa Malaysia had to be governed by rules of phonology and graphology such that the scientific terminology can be standardised. For this purpose, a rule or a set of rules can be formulated following certain phonological characteristics, and these rules can be the basis for the coining or adapting of technical terms. However, loan words especially when taken in great bulk can invade the recipient language with numerous alien phonological characteristics. While the making of a set of rules for each characteristic is possible, the task of accomplishing the sets of characteristics with sets of rules is a tedium that should be avoided whenever possible. The entire process can be rendered practical by having a general rule which will make the formulation of rules for certain characteristics necessary.



Bahasa Malaysia had, before the co-operation with Indonesia on the question of scientific terminology, already got a rule like the one mentioned, and this rule originated in the coining of the scientific terms by the University of Malaya. This rule stated that in the adapting of technical terms from the international scientific vocabulary, priority should be given to the visual representation of such terms rather than their phonetic renderings. (Asmah Haji Omar 'Some Rules for the Coining of Technical Terms in Bahasa Malaysia', *Nusantara. Journal of the Arts and Social Sciences of Southeast Asia*, (Kuala Lumpur), No. 1, January 1972, p.44-55). This rule was made to ensure that the scientific terms in Bahasa Malaysia would not be too far apart from their counterparts in the international vocabulary, when they appear in their orthographic representation. To be sure there would occur certain orthographic discrepancies between the Malaysian terms and those of the international vocabulary and other modern languages, but the differing elements have an explicit relationship in the sense that there is a high degree of transparency in their orthographic correspondence. The following correspondences illustrate the close relationship in terms of visual representation of technical terms in the various languages: -

A. BAHASA MALAYSIA	ENGLISH
geologi	<i>geology</i>
geografi	<i>geography</i>
prisma	<i>prism</i>
oksigen	<i>oxygen</i>
hidrogen	<i>hydrogen</i>
nitrogen	<i>nitrogen</i>
katalog	<i>catalogue</i>

Before the rule which gives priority to the visual representation of the technical terms came into the fore, the adapting of technical terms into Bahasa Malaysia was based mainly on their phonetic realisation in English. As such, the Bahasa Malaysia counterparts of those technical terms were given orthographic appearances which rendered the facility of pronouncing them with quite a high degree of similarity to the English pronunciation of them.

The priority given to the phonetics of English for the technical terms and the rule of the spelling of these terms stipulating that it should reflect the English version of pronunciation, gave rise to orthographic representations of those terms which had a very low degree of similarity with their orthographic representations not to say of other languages, but even of English itself. And this method of adapting foreign technical terms had brought into Bahasa Malaysia words like

the following:

B. BAHASA MALAYSIA	ENGLISH
jeoloji	<i>geology</i>
prizam	<i>prism</i>
oksijan	<i>oxygen</i>
haiderojan	<i>hydrogen</i>
naitrojan	<i>nitrogen</i>
ketelog	<i>catalogue</i>
skil	<i>scale</i>
maikerofilam	<i>microfilm</i>
sepiar	<i>sphere</i>
saikoloji	<i>psychology</i>

Although Malaysians involved in the various disciplines are mostly people who are proficient in English, the orthographical renderings in Bahasa Malaysia for terms like the ones given in the table above prove to be a visual repulsion. The reaction of scientists, academicians and other people in the field towards such terms led to the rule emphasising the importance of the visual representation of the technical terms above their phonetic realisations. Indeed, standardisation is easier achieved in the written language than in the spoken one, and communication between scientists either in their own national milieu or across national boundaries is largely via the written language. This rule was accepted by both Malaysia and Indonesia at the Majlis Bahasa Malaysia-Indonesia II, held in Puntjak Pass, Jakarta, August 13-15, 1973.

Language standardisation in the context of a scientific terminology is largely the standardisation of its phonological and orthographical systems. This is because what is important in dealing with technical terms is the transparency of their spelling, and spelling is but a visual representation of the phonology of those terms. However, as the technical terms are words and phrases which are units of grammar, the standardisation of these units as well as the morphemes is also necessary for the purpose of attaining a standard terminology of the sciences.

The bound morphemes in Bahasa Malaysia consist of the prefixes and the suffixes. These morphemes have shown quite a high degree of standardisation in their usage in the written language or in formal spoken language. Standardisation as far as the bound morphemes are concerned in the coining of technical terms mainly concerns the treatment of the loan affixes.

The entrance of loan affixes into Bahasa Malaysia, particularly those which came together with the technical terms, had been quite haphazard. The presence of some of these loan affixes in Bahasa Malaysia are justifiable, while that of the others are not. The first

category of the loan affixes mentioned above consists of those affixes which do not have any counterparts in the Bahasa Malaysia inventory to convey the very concepts borne by them, while in the second category are those affixes which have one-to-one correspondences in the bound morphemes in Bahasa Malaysia in terms of their semantic functions.

Technical terms happen to consist of affixes taken mainly from the Greek and the Latin sources. These affixes, due to their association with scientific concepts throughout the centuries, seem in certain cases to be identified with the language of sciences. In this way, such affixes prove that their existence can be regarded as indispensable regardless of their language contexts. Examples of this are -ism, pra- (Latin *prae-*), pro-, anti-, sub-, supra-, super- etc.

Such bound morphemes historically entered Bahasa Malaysia as parts of complex words. As time went by, they were detached from the constructions which contained them for the purpose of using them with native word-stems to form new terms. Such being the case, it can be said that these morphemes became loan morphemes in Bahasa Malaysia in their own right. This is of course different from the situation in which the loan bound morphemes entered Bahasa Malaysia solely as part of the whole complex word. This is to say that these morphemes have so far not been detached from the word-stems to be attached to other stems in Bahasa Malaysia for the formation of new words. Examples of such morphemes are as follows: bi-, di-, dia-, mono-, multi-, -logi (English *logy*), intra-, extra-, ab-, etc. As these morphemes have been brought in as parts of loan words and not within their own right, they cannot be considered as loan affixes. Nevertheless, the terminologists are very much in the know of the concepts they bear. Because of this, there had been attempts to produce equivalents for them in pure Bahasa Malaysia or in Sanskritized Bahasa Malaysia. The morpheme *bi-* as in *bicep*, *bilingual*, etc. had had equivalents given to them in *dua* and *dwi-*. These so-called Bahasa Malaysia counterparts are used to refer to the concept borne by *di-*. The correspondence *dua* (full word) is the native Bahasa Malaysia word for *two*, while the correspondence *dwi-* is a loan prefix from Sanskrit. Hence, it is found that the determination for the Bahasa Malaysia equivalent for *bi-* and *di-* has been left to the fancy of the various terminologists in the face of the two possibilities mentioned above. The prefix *bi-* is sometimes translated as *dua* and sometimes as *dwi-*. The same case applies to *di-*. The following examples serve to illustrate the point just made.

<i>bilingual</i>	-	dwibahasa ( <i>bi</i> = <i>dwi</i> , <i>lingual</i> = <i>bahasa</i> )
<i>biconcave</i>	-	dwicekung ( <i>concave</i> = <i>cekung</i> )

<i>biconvex</i>	-	dwicembung ( <i>convex</i> = cembung)
<i>bisexual</i>	-	berjantina dua ( <i>sex</i> = jantina)
<i>dicotyledon</i>	-	duakotiledon ( <i>cotyledon</i> = kotiledon)
<i>diatomic</i>	-	dwiatom ( <i>atom</i> = atom)

There are cases analogous to the above where this lack of standardisation ultimately led the terminologists to decide once and for all on the adaptation of the foreign affix. A good example is the case of *-logy* and *-ics* both of which refer to the specific sciences. At one time, *-logy* was translated into Bahasa Malaysia as *kaji* (a native word meaning *to study, to analyse*) and *-ics* as *ilmu* (an Arabic loan word meaning *science*). Hence, *biology, geology, sociology, anthropology, morphology* and *phonology* became *kajihayat, kajibumi, kajimasyarakat, kajimanusia, kajimorfem* and *kajibunyi* respectively in Bahasa Malaysia. On the other hand, *linguistics, economics, physics* and *phonetics* became *ilmu bahasa, ilmu ekonomi, ilmu fizik* and *ilmu bunyi*. The early terminologists of Bahasa Malaysia strove to maintain the semantic difference between *-logy* and *-ics* ignoring the fact that in the present-day interpretation of these morphemes, the only differences between them lie in their phonological realisation and their historical origins and not in their semantics. To these terminologists, the terms prefixed by *kaji* were not sciences (*ilmu*) but consist only of analyses, whereas those with *ilmu* were actual *sciences*. Hence, *biology, geology, etc.* as the interpretation went at the time, were not considered as sciences. However, the translations for *-logy* and *-ics* and the interpretation that went with them proved to be confusing. People became confounded in the use of them. In the confusion, one morpheme came to be used in place of another and vice versa. Thus *linguistics* which normally would be translated as *ilmu bahasa* were at times given the translation *kajibahasa*. This lack of standardisation was greatly felt and deplored, and as a result of this a decision was made to take over the foreign terms as they were with certain phonological and orthographical changes wherever necessary to fit with the system of phonology and orthography of Bahasa Malaysia. Standardisation in this aspect was achieved, as *morphology, phonology, sociology, biology, physics, phonetics, linguistics, etc.* came to be known in the Bahasa Malaysia terminology as *morfologi, fonologi, sosiologi, biologi, fizik, fonetik, linguistik, etc.*

Earlier on, mention was made on the presence of certain loan morpheme in Bahasa Malaysia whereas their admission was not justifiable. The unjustifiability of the presence of such morphemes in Bahasa Malaysia

is due to the fact that Bahasa Malaysia has already been in possession of morphemes which convey aptly the concepts borne by the foreign morphemes. A good example of such a Bahasa Malaysia morpheme is the discontinuous affix *pe - an*, which is a nominal morpheme with the meaning *process of ...*, *act of ...*, as in *penyatuan* which means *the act of uniting; unification of*. This word is derived from the root *satu*, meaning *one*.

Foreign technical terms which denote the concept mentioned above bear the compound affix *-isation* if they come from the English source, or *-isatie* if they come from the Dutch source. The early trend in Malaysia was to make use of the *pe - an* by affixing it to the foreign base-word, thus giving rise to words like *penstandardan* for the equivalent of *standardisation*. However, later on the wind of influence from Indonesia seemed to blow stronger and as a result, *standardisasi* (for *standardisation*) was taken over by Bahasa Malaysia. In general, it can be argued that this morpheme *-isasi* from *-isatie* did not come into Bahasa Malaysia in its own right, but it came as part of whole words. Other examples of such words are *urbanisasi* (= *urbanisation*), *ionisasi* (= *ionisation*), *nasalisasi* (= *nasalisation*), *modernisasi* (= *modernisation*) and so on. Nevertheless not long ago, a new word cropped up in a speech of a very eminent personality in Malaysia, which indicated the abstraction of the morpheme *-isasi* such that its entry into Bahasa Malaysia was made in its own right just like the Sanskrit *dwi-*, the Latin *pra-* and so on. This particular word was formed from the Malay root *bandar town, urban* suffixed by *-isasi*, to mean *urbanisation*, and it took the form of *bandarisasi*.

However, the present trend in Malaysia and even in Indonesia is to return to *pe - an*. This reaffirmation of *pe - an* in technical terms will doubtlessly make those terms more acceptable to the people of both countries. From the linguistic point of view, *-isasi* is an unnecessary addition while from the layman's point of view, this suffix increases the degree of 'foreignness' in the technical terms.

In this connection, mention can also be made of the ending *-si* which occurs in abstract nouns of the loan technical terms. This ending is taken via Bahasa Indonesia from the Dutch language *-tie* which is cognate with the English *-tion*. Like the *-isasi*, the ending *-si* enters Bahasa Malaysia through Bahasa Indonesia as part of the whole word, not as a morpheme in its own right. However, the ending came to be popularised in Malaysia after 1967, that is after the resumption of the diplomatic relations between Malaysia and Indonesia which previous to that was in political 'konfrontasi' with each other. This resumption in the diplomatic relations between the two countries paved the way for the resump-

tion of talks on language problems, and at that time the problem was specifically the common spelling system. This is not to say that the Malaysians accept the ending *-si* with complaisance. The prejudice against this ending is still there but the degree has been reduced to a lower level. Previous to 1967, there was a marked opposition to this ending. Malaysians, being more familiar to the English language than to the Dutch language were more in favour of *-syen*, the Malaysianised version of *-tion*. Hence *television* which at its introduction in 1963 was known as *talibisi* was promptly changed to *talivisyen*. But in the field of the sciences, the people involved seemed to prefer *-si*, may be for various reasons; among those are (1) the economicity of *-si* compared to *-syen*, (2) the absence of any loan phoneme in *-si* as against *-syen* which contains the palato-alveolar fricative [ʃ] represented by *sy*, and this phoneme is certainly alien to the non-English-educated Malays, and (3) the distribution of the schwa vowel in *syen*, which does not comply with the rules of the Malay phonology. The three factors mentioned above are felt by most users of Bahasa Malaysia, and this realisation could have been a factor in the withdrawal of *-syen* in favour of *-si*. This usage has now been standardised. Thus we see that standardisation can be attained by linguistic as well as practical considerations.

In its effort to acquire technical terms for Bahasa Malaysia, the Dewan Bahasa dan Pustaka used to resort to the formation of acronyms. The creation of acronyms can and has caused a lot of chaos in terminology, especially when the acronyms were coined according to the fancy of its creator or creators. This means that the syllables of the acronyms could be juggled around until some nice sounding word emerges. This total lack of rule for the creation of acronyms has been responsible for the chaos this group of lexical items has to offer to Bahasa Malaysia. The flow of acronyms if left unchecked can abort the process of standardisation. The formulation of a rule or rules for acronyms is not easy, as one of the features of acronyms lies not only in its transparency which reflects the words from which syllables are detached in the acronym creation, but also in its euphonic appeal. An acronym can be formed by a simple rule which says, for instance, that its components should consist of the first syllables of the words from which the concept borne by the acronym is derived. If the combination of such syllables prove to be aesthetically viable, the acronym is a good one and can linguistically be accounted for. On the other hand, if the aesthetic attraction does not accompany the syllable amalgamation, then the rule has to be violated. And many an acronym have violated this rule. Because of this, the standardisation of the formation of acronyms is difficult to achieve, and as such the formation of acronyms should be

discouraged.

The standardisation of the syntactical aspect of the technical terms has been better reinforced all these years, compared to all the other aspects mentioned, viz. orthographical, phonological and morphological. The syntactical aspect that matters in technical terms comprises the relationship between components which are words or/and phrases. Word-order in Bahasa Malaysia can be said to be more or less rigid. Except for the numeral phrase, word-order in Bahasa Malaysia consists of the structure head - modifier. In the numeral phrase, the order is the reverse of the above. The great awareness of the word-ordering rule has so far prevented this rule from being violated, and as such standardisation in this aspect of technical terms has been maintained.

Single-word technical terms that come from the foreign languages occur in their simple or complex forms. In their complex forms, these technical terms have at least one root-word and one affix. Previously, the terminologists of Bahasa Malaysia created a rule to which they stuck faithfully in the adopting of the foreign technical terms. This rule stated that in the adopting of foreign terms into Bahasa Malaysia, only the root-forms were taken into the language. From these root-forms various derivations could be realised by employing the morphological elements there were in Bahasa Malaysia. Although this rule could be applied to some of the technical terms, its impracticality projected itself in others, such that if the rule were to apply as well in these cases, a large number of technical terms would be long, unwieldy and cumbersome. Besides that, there is of course the age-old problem of not succeeding in getting a one-to-one correspondence between the foreign affix and the Bahasa Malaysia affix.

The word *nasional*, for instance, has been adapted from the English word *national*. If the rule stipulating for the importing of only the root-form applies, then *nasional* is disqualified. The form that qualifies under this rule is *nasion*. The derivation of a word bearing the concept '*national*' from *nasion* and some Malaysian morphological element is not impossible but may not be feasible. The term *perdagangan nasional* for *national trade* would have to be converted to either *perdagangan nasion*, which does not convey the meaning of *perdagangan nasional*. Likewise, *perdagangan bernasion* or *perdagangan nasionan* (with the affixes *ber-* and *-an* respectively) does not project any accuracy in the meaning as borne by *perdagangan nasional*.

The word *morfologi* has been adapted from *morphology*. It is not hard to think what the equivalent of this word would sound like, as the rule under consideration had already been applied in the early 1960s in the search for the Bahasa Malaysia equivalent of this word. The term then

coined was *kajimorfem*. This term was good enough for the layman to equate it to *morphology*, that subsection of grammatical analysis. To the linguist, *morphology* is not confined to the sublevel of grammar mentioned above, but it is also used to refer to the process that takes place in the formation of a word. The explanation for this process in Bahasa Malaysia is *proses pembentukan kata*, which is quite lengthy to qualify for the status of a technical term. There was no other alternative that the linguist could think of but *morfologi*, and this has been the term used by them to convey the two meanings conveyed by *morphology*.

The case of words with the ending *-si* discussed in the previous pages is also a good illustration of the non-feasibility of restricting the borrowing of technical terms to the root-word only. The words *inflasi* (*inflation*), *fleksi* (*flection, inflection*), etc. do pose a problem in the determination of their root-forms. This effort may even lead to a more hazardous state of affairs in the field of terminology building for Bahasa Malaysia. The consensus between Malaysia and Indonesia to adopt a form (root-form or complex form) which proves feasible for the derivation of technical terms, will leave the terminologists concerned to use their discretion in facing the various foreign terms. The constant communication between the Malaysian terminologists and their counterparts in Indonesia will forestall any danger of the de-standardisation of the technical terms of that nature.

The short-cut way towards a standardised terminology for Bahasa Malaysia is to accept the foreign terms, whatever they are, and have their phonological appearances adapted to Bahasa Malaysia. This implies that Bahasa Malaysia is not capable of expressing by way of its own linguistic elements any technical concept there be. While this implication is false, it also sensitivises the linguistic pride of the Bahasa Malaysia speech community as well as that of the nation.

Bahasa Malaysia just like any other natural language is endowed with a wealth of vocabulary items which convey technical concepts provided that the domains in which the concepts are used are not alien to the Malay life. As such, terms for woodcarpentry, boatbuilding, weaving, smithery, rice-farming, etc. are already in existent in the Malay language and had been lying in wait for the elevation of their status as common day-to-day words to that of scientific terms. But the sophisticated field of the various sciences and technology are very new to the Malay world, and as such the type of language used in this field and the concepts it bears are as alien to the urban educated Malays as they are to the rural folks. To look into the Malay dialects and the genetically related indigenous languages may prove to be a time-consuming and futile effort. For such terms, it would be worth-



while just adapting the foreign terms.

The endeavour of the early Malaysian terminologists in the late 1950s and early 1960s to look back to the Malay world for every single term and failing that to look to Indonesian and at the last resort to the Anglo-American vocabulary had brought about negative results, in the sense that words taken from the Malay dialects for the new concepts introduced by science and technology were found unsuitable by the scientists and the professionals. This heralded the birth of doublets in the scientific terminology of Bahasa Malaysia. Despite efforts to iron out differences between the various institutions involved in scientific terminology in Malaysia and between Malaysia and Indonesia, traces of these doublets still remain to be seen or to be in use. There is a great possibility that the technical forms favoured by the scientists and the professionals will win the day. When this happens doublets will fade away and there is hope for a better reinforcement of the standardisation of the technical terms. With this, the implementation of the national language, Bahasa Malaysia, as the main medium of instruction will not be obstructed any longer by the lack of a good and standardised scientific terminology. The acceptability of the technical terms by the language users, especially the scientists and the professionals, bears great significance towards making Bahasa Malaysia a language of science.

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