A MODERNIZATION-STANDARDIZATION PLAN FOR THE AUSTRONESIAN-DERIVED NATIONAL LANGUAGES OF SOUTHEAST ASIA

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I. The Rise of National Languages in Insular SEA

ONE OF THE VERY FIRST ACTS OF THE EMERGING NATIONS in the island world of Southeast Asia, upon entering the road of political independence, was the formation or designation of their own national languages based on their existing Austronesian[1] dialects. It was an instinctive step, a fitting result of the early struggles for freedom which did not surprise even the former colonial purveyors of widely-used, highly-developed European languages.

Indonesia seems to have taken a slight lead in this cultural awakening.[2] As early as 1933, a civic organization called the Indonesian Language Congress declared the variety of the Malay tongue spoken in Sumatra and Java as the basis of their national language which was to be called Bahasa Indonesia. At the end of World War II, the leaders of the fight for freedom made the use of Bahasa Indonesia official in the newly established republic. The new national tongue was gradually enriched with accretions from the some 250 or so recognizable dialects in the archipelago, and with borrowings from Western languages, mainly Dutch and English. Dr. Carlos P. Romulo, commenting on the rapid spread of a national language in Indonesia, remarked that a mild form of compulsion, taken with good humor by the Indonesians, contributed greatly to the quick development and propagation of Bahasa Indonesia.

The Philippines appears to be the second locale in this spontaneous growth of national languages in insular Southeast Asia, although the seeds of the movement itself were sown there in the first decades of this century by dedicated pioneers like Lope K. Santos, Honorio Lopez and Eusebio T. Daluz.[3] The Constitution of the Philippine Commonwealth, adopted in 1935, provided that "The National Assembly shall

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[1] The family of agglutinative languages, also known as Malayo-Polynesian, spoken in a wide area from Madagascar in the West, through Malaysia, Indonesia, the Philippines, Micronesia and Hawaii to as far as Easter Island in the east. See Webster's New International Dictionary, Second Edition (1959), p. 185.

[2] Bro, Margueritte Harmon: *Indonesia, Land of Challenge,* Harper & Bros., New York, 1954; pp. 109-112.

[3] Frei, Ernest J.: *The Historical Development of the Philippine National Language,* Bu. of Printing, Manila, 1959; pp. 62-65.

take steps toward the development and adoption of a common national language based on one of the existing native languages."

Subsequent presidential directives and ministerial orders implemented this "constitutional mandate" until the Tagalog language of central Luzon was declared the basis of the Filipino National Language in 1937, and this national language became an official language in 1946, the year in which the Republic of the Philippines was born.

The latest on the scene was the Federation of Malaya, later to become the Federation of Malaysia.[4] Upon achieving political independence in 1957, the Federation adopted Malay as the sole official language, but this was to be gradually implemented during a ten-year period that culminated in 1967. At the start of that decade, the Federation established the *Dewan Bahasa Dan Pustaka* (Institute of Language and Culture) which officially led in lexicographic work, translation and book publishing.

We who are close to the events perceive a difference of several years in the formal birth of the three national languages, but when the story of the Southeast Asian islands will be told in later centuries, the future historian will see the events, in perspective, as merged into one spontaneous and instantaneous cultural phenomenon driven forward by what Quaritch Wales calls "local genius."[5]

II. Functions of National Languages

The stock answer to the question of why it is necessary to have a national language is one that appeals to the emotion and sentiment: "One nation, one flag, one language." National identity demands a national tongue.[6] Yet this is the least important of the functions of national language. There are nations, such as Switzerland,[7] with more than one national language — although such nations are generally small ones. A national identity is desirable but not essential to the formation of a nation. The corporate will and structure is more important.

A far more meaningful justification for having a national language is the attainment of national unity. This is a practical and productive function. We have seen how India, sundered by many languages, has actually split into two parts, and we have witnessed how Japan, welded firmly by Nippongo, has remained a strongly united people through the disaster of utter defeat in a global war.

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[4] Nasir, Tuan Syed: *Strengthening Linguistic Ties Will Hasten Malay Unity,* The Asia Magazine, Manila, October 9, 1966.

[5] Quaritch Wales, H.G.: *The Making of Greater India — A Study in Southeast Asian Culture Change,* B. Quaritch Ltd., London, 1951; p. 17.

[6] Panganiban, Jose Villa: *Language and Nationalism,* reprinted from the quarterly magazine COMMENT No. 11, Second Quarter, 1960.

[7] Encyclopedia Americana: Article on *Switzerland,* The Americana Corporation, New York, 1956, Vol. 26, p. 150.

But even for unity, the national language is not a *sine qua non.* Unity of a sort may be achieved by using an approximately common language, such as English in the Philippines, even if this is not the national tongue.

The really important reason has so far escaped popular recognition and discussion. A national language, when spoken and used on a truly national scale, should enable the school system to teach knowledge in general, and science in particular, very quickly to elementary school children. This sounds simple but most of the countries of the world, including some of the biggest and most powerful, are not doing it, or are not able to do it.[8]

To fulfill this important function, a national language must have two qualities: modernity, to cope with the progress of science and technology, and lexical consistency, to be understandable to children just entering the school system.

Let us take two examples from areas outside of Southeast Asia. Nippongo is both modern and lexically consistent to a high degree so that Japanese children get a thorough grounding in science before leaving the elementary schools. On the other hand, the English language is thoroughly modern but is not lexically consistent. American and British children do not learn science concepts as fast and as efficiently as their Japanese counterparts. English-speaking children are burdened with so many difficult Greco-Latin terms that they are not able to grasp science subjects while still in grade school.

A national language is desirable for the acquisition or retention of national identity and the formation or maintenance of national unity, but beyond these, a modern and consistent national language is essential to enable children to come up quickly to the present level of science, technology and the humanities.

III. Language Modernization

The most commonly accepted definition of the adjective *modern* is "Characteristic of the present or recent time,"[9] hence, new-fashioned. When used with a capital initial, it designates the most recent period of a language or literature, in contrast with its earlier periods. Thus we may speak of *Modern Tagalog,* in contrast with *Old Tagalog* which we can glean from any examples given in Noceda and Sanlucar's *Vocabulario de la Lengua Tagala* (1860). We may also speak of *Modern Malay,* in contrast with *Old Malay* as reflected in the oldest Malay Dictionary

[8] Del Rosario, Gonsalo: *An Easier Method of Teaching Science,* UNESCO Philippines, June-July 1966, Vol. V, Nos. 6 & 7; pp. 189-200.

[9] Webster's New International Dictionary, 2nd Edition (1959), p. 1577.

compiled in the 15th century A.D., during the reign of the Malacca Sultanate.[10] However, both *Bahasa Indonesia* in the Republic of Indonesia, and *Pilipino* in the Republic of the Philippines, are to be regarded as modern languages, with no ancient antecedents, since they are admittedly still being developed out of indigenous base languages. Both represent accelerated linguistic development which accompanies a correspondingly accelerated socio-economic development.

Modernization is, for our purposes, to be understood as the fitting of a language to recent or present times and conditions, which are characterized by the dominance of science and technology in all areas of human activity.

Modernization is a highly relative term, both in relation to degree of change, and in its relation to the changes of the social environment in which the language is used.

With respect to degree of change, we have to consider the three central subsystems of language: the grammatical system which deals with the sequencing of morphemes, the phonological system which deals with the sequencing of phonemes, and the morphophonemic code which ties together the two subsystems.[11] Is any existing language *truly modern* with respect to these central subsystems of language? How far is even the English language modern in this sense, and how can it be made *more modern*; i.e., more suitable to modern socio-economic conditions? In the increasing prevalence of ungrammatical idiomatic expressions, of unassimilated foreign idioms and of acronyms in the English language, we see the signs, not of modernization, but of creeping vernacularization.

Structural linguistics, which abets and justifies this run-away sophistication, is now under attack by transformational linguistics, which holds that language is an innate, instinctively acquired facility. A "new English grammar" based on the transformational approach has been written and is now spreading through the American public school system.[12]

The English language is thus in the throes of a certain type of modernization which is valid only for its own morphophonemic system. The central subsystems of other languages must be thoroughly examined before attempts are made to apply to them modernization of this type. It may turn out that the agglutinative Austronesian-derived languages of Southeast Asia, particularly Tagalog, with their rational syntax and rich morphological stock, are already highly *modern* in this respect, and need only further polishing rather than radical change.

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[10] Dewan Bahasa dan Pustaka: *The Development of Malay Lexicography,* mimeographed pamphlet issued by the Dewan in Kuala Lumpur in 1966.

[11] Hockett, Charles F.: *A Course in Modern Linguistics,* Macmillan Co., New York, 1958; pp. 137-144.

[12] Time Magazine: *The Scholarly Dispute Over the Meaning of Linguistics,* February 16, 1968, p. 38.

As for language modernization with respect to the sociological, non-speech environment, we have to consider the two peripheral subsystems of language: the semantic system which assigns meaning to the stock of morphemes, and the phonetic system, which converts the phoneme sequences into understandable sound signals. It is in these peripheral subsystems that changes are most likely to occur in the languages of developing nations such as Malaysia, Indonesia and the Philippines.

And it is in these peripheral areas of language where mere Westernization is apt to be mistaken for modernization. The process of language modernization is here beclouded by the fact that the Western nations pioneered in science and technology so that they now enjoy *de facto* priority in the promulgation of nomenclature and terminology in these fields.

This problem was thoroughly examined at the International Conference sponsored by the Malaysian Society of Orientalists and held in Kuala Lumpur in September 1967.[13] Some 40 papers from the Southeast Asian and Pacific areas were contributed around the central theme "The Modernization of Languages in Asia."[14]

The thoughts of the Southeast Asian linguists who attended the Conference are perhaps best summarized by Dr. Karl Heidt,[15] director of the Goethe Institute in Kuala Lumpur, who pointed out in his paper that "the modernization process will certainly not be 'more modern' if a genuine phonemic system is being moulded towards an alien system from which some words are borrowed." Heidt ended his paper, which was one of those submitted to the Conference, with the following admonition: "Westernization, however, by which is meant the partial or even total abandonment of traditional values in favor of alien values which have grown out of entirely different background facts, may eventually lead to a loss of identity and personality."

In the present paper, therefore, we shall take language modernization to mean the fitting of the Southeast Asian national languages — Malay, Bahasa Indonesia and Pilipino — to recent and present social and economic conditions which are characterized by the dominance of science and technology. Such modernization must primarily come from the inside with respect to both the central and peripheral systems of language.

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[13] Alisjahbana, S.T.: *The Modernization of the Languages of Asia in Historical and Socio-Cultural Perspective,* mimeographed paper contributed to the International Conference on "The Modernization of the Languages in Asia," held in Kuala Lumpur, Sept. 29-Oct. 1, 1967.

[14] Aspillera, Paraluman S.: *Modernization of Languages in Asia,* report on the Kuala Lumpur Conference, Sept. 29-Oct. 1, 1967, by the Philippine delegate. Published by the UNESCO Philippines, March 1968.

[15] Heidt, Karl M.: *Modernization or Westernization?,* mimeographed paper contributed to the International Conference on "The Modernization of the Languages in Asia," held in Kuala Lumpur, Sept. 29-Oct. 1, 1967.

Modernization must preserve the internal consistency of these three languages, if they are to serve that highest function of a national language which is, as we said, to bring the children of a nation as quickly as possible to the world level of science, technology and the humanities.

IV. Consistency in Language

We mentioned "internal consistency of the language" in the preceding paragraph. What is it?

The adjective *consistent* means "having agreement with itself, or with something else; accordant; congruous," according to Webster's New International Dictionary (2nd ed.). Another dictionary adds "compatible, not contradictory or opposed." *Consistency,* therefore, is "agreement or harmony of all parts of a complex system among themselves, or of the same system at different times."

Consistency in language[16] is a broad principle applicable to all the languages of the world. Languages, as well as other communications systems, spontaneously become as consistent as circumstances permit. Or, as the experts say, they tend toward maximum consistency. Inconsistent languages eventually die out or become absorbed by more consistent ones. Inconsistent communications systems are worse than useless; they may even become dangerous. Much confusion would result if even only one of the symbols of the Morse Code were, somehow, to become inconsistent with the rest of the system.

The world puts a premium on consistency and eventually rejects inconsistency. People admire consistent workers, sometimes regardless of actual accomplishments. Courts of law tend to believe consistent witnesses and discount inconsistent testimonies. Formal games like basketball and baseball depend entirely on consistent rules. The game of life itself is played best with consistent actions.

If consistency is desirable in ordinary human activities, it is indispensable in science. Scientists often devise consistent nomenclature and terminology when writing on subjects of such importance that errors in interpretation could be dangerous. Even in linguistics — or specially in linguistics — consistency is a prime concern. Hockett, writing a preface to one of his books on structural linguistics had to make this explanation: "Terminological innovations have been avoided as much as possible. Complete avoidance has been unattainable because it is essential to discuss all aspects of the field in a consistent terminology, and no complete and consistent terminology has existed."[17]

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[16] Del Rosario, Gonsalo: *Consistency, Not Purity, Is the Important Factor in Language Development,* The Philippine Educational Forum, June 1967; pp. 1-11.

[17] Hockett, Op. Cit., p. vii.

A living, developing language has the inherent power of assimilating those elements that can be made consistent, and of rejecting those elements that cannot be made to conform with its fundamental organization and structure, and these happen even without the conscious knowledge of the speakers of the language.

Among the Southeast Asian languages, Tagalog is the most intrinsically consistent. Changes and innovations inevitable in any language become, in Tagalog, imperceptibly consistent with the morpheme stock, phonology and syntax of the language.

The internal consistency of Tagalog was preserved even during the four centuries of contact between the Filipinos and the Spaniards. Thousands of Spanish words entered into Tagalog but in time these became assimilated in pronunciation and spelling. This was the fate of Spanish words like *caballo* (horse) and *cebollas* (onion), which eventually became *kabayo* and *sibuyas*, respectively, in Tagalog. No single individual initiated the assimilation of these words. Certainly no scholar or academy came forward and said, "From now on, we will say *kabayo* instead of *caballo*, and *sibuyas* instead of *cebollas*." No such deliberate proposal was made. It was the collective mind of the Tagalogs, or their collective phonetic habits, which provided the motive power for the change.

While this assimilative process was gradually taking place, a simultaneous rejection process was occurring, driven forward by the same force of collective phonetic habits. While *caballo* was slowly becoming *kabayo*, the related Spanish words *caballero* (horseman) and *caballeria* (cavalry) were being rejected, and instead of these, the consistent Tagalog derivatives *mangangabayo* (horseman) and *kabayuhan* (cavalry) were becoming the accepted terms. The word *kabalyero* indeed also entered the Tagalog language, but not in the meaning of *horseman*. It came in as a single morpheme denoting *gentleman* or knight, often with the somewhat derogatory meaning of "gallant and gentlemanly spendthrift," which is definitely different from the original connotation of *caballero*.

Who exercised such linguistic choice between assimilable root words, on the one hand, and unacceptable derivatives, on the other? The answer is, again, the collective linguistic habits of the people.

Assimilation and rejection as they have been observed in the Tagalog language have not stopped and are still operating with the same slow but inexorable results as in the past. The twin processes are going on unconcerned with our petty controversies, like the serene and constant ticking of a clock in the midst of a howling storm.

While the above examples have been taken from Tagalog, no doubt numerous valid cases can also be cited from Malay and Bahasa Indonesia. These two languages also possess internal consistency.

The English language, relatively, does not have as much internal consistency but there are signs that it might regularize itself in the future. Dr. Mario Pei (1961) predicted some stabilization and standardization of pronunciation, and a "moderate amount of grammatical transformation."[18] The big problem of English, however, is its huge burden of Greco-Latin derivatives which are not consistent with the common, everyday words spoken by children in the home, school and community. This is what delays the learning of content subjects by grade school children in the United States and other English-speaking countries.

The Japanese language, like Tagalog, has great internal consistency and this makes it very well-suited for scientific development.[19]

Assimilation is an important principle that has implications reaching beyond the field of language development. What is thoroughly assimilated becomes indigenous and contributes permanently to native culture. Whatever is not assimilated remains alien and in the long run will be rejected. These are anthropological forces that human caprice cannot nullify.

Why are Southeast Asian countries having continuing difficulties with the Chinese in their midst? Is it not because these Chinese are resisting assimilation, or are not taking positive steps to integrate with their host countries? If they would only allow themselves to be assimilated into Southeast Asian communities, without mental reservation and dual loyalties, would they not become Malaysians, or Indonesians or Filipinos, as the case may be, in the important sense of the term, and thus end the region's bothersome "Chinese Problem" once and for all?

V. Two Classes of Contentives: Names and Terms

The modernization-standardization plan that we propose for the three national languages of Southeast Asia which are Austronesian in origin can best be understood by first reviewing how the *Lupon sa Agham* (Science Committee)[20] in the Philippines went about preparing an integrated vocabulary of basic scientific and technical words and expressions adequate for modern living but consistent with the morphological stock of Tagalog.

The *Lupon*, created by the *Linangan ng Wikang Pilipino* (Academy of the Pilipino Language) which was in turn established in 1964 by the UNESCO National Commission of the Philippines, drew its membership of 60 volunteer scientists, professors and engineers from the

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[18] Pei, Mario: *English in* 2061: *A Forecast*, American Journal, March 1962, Vol. I, No. 4; pp. 66-71.

[19] Del Rosario, Gonsalo: *Pilipino: A Potent Tool for Knowledge*, UNESCO Philippines, Jan.-June 1967, Vol. VI, Nos. 1-6; pp. 6-16.

[20] Pecson, Geronima T.: *Umaasa ang Bayan sa Lupon sa Agham* (The Country is Pinning Its Hopes on the Science Committee), DIWA, Manila, Oct.-Dec., 1965, No. 1; pp. 7-8.

universities, Government offices and professional and scientific societies. Five sub-committees in the five fields of the mathematical sciences, physics, chemistry, biology and the social sciences, met once a week at lunch to study and vote on word lists prepared by the members. To expedite the work, a research sub-committee made preliminary studies and recommendations on proposed Pilipino translations, before these were submitted to the weekly meetings.

Most of the words and expressions to be translated were generally contentives. For its specialized purpose, the Lupon divided them into two general classes: *names* and *terms*.

Names are those arbitrary words and expressions used to denote materials, equipment, instruments, measurements, stars, planets, countries, animals, plants and other concrete things than can be felt and seen. In any language, names are usually arbitrary. For example, the meaning denoted by *man* in English is *hombre* in Spanish and *lalaki* in Pilipino. What is the reason for such differences? Why is *water* in English *tubig* in Pilipino, *sui* in Chinese, *mizu* in Japanese and *agua* in Spanish? Why is it *aso* in Pilipino, *dog* in English, *hund* in German and *inu* in Japanese? Nobody knows why. The most learned linguist may attempt to explain this arbitrariness in terms of idioms and lexemes, but in the end must admit that there is no special reason for a dog being called *dog*, aside from usage. The collection of names in a given field is the *nomenclature* of that field.

Terms, on the other hand, are understood by the Lupon to mean words and expressions consisting of more than one morpheme each, whose meanings are deducible from their structures, and are constant from one occurrence to another. To be consistent, terms should show clearly their structures in terms of root words and affixes, and their formation in terms of affixation, combination, or reduplication. The collection of terms in a given field is the *terminology* of that field.

The writer realizes that his use of the words *name, nomenclature, term* and *terminology* is itself arbitrary and an improvisation that may conflict with actual usage of these words in an American or British context. This is unavoidable in this paper which is written in English. In its actual work, conducted entirely in the Pilipino language, the Lupon used the Pilipino words *ngalan, kangalanan, tawag* and *katawagan* which are more appropriate and less loaded with extraneous semantic contents. The Lupon is in fact setting the technical usage for these words.

The Lupon took the trouble of dividing the field into these two general classes, names and terms, because the manner of translation differed considerably in each. The division is not a clear-cut one. Some words have been difficult to classify, and seemed with equal reason to

belong to both groups. In general however, it has always been possible to arrive at either a decision or a compromise.

VI. Names May Be Arbitrary

In translating the first group of words and expressions — the scientific and technical names — the Lupon used the following sources, in the indicated order of priority: (1) current Tagalog words, (2) old Tagalog words, (3) words from the other principal dialects in the Philippines, (4) Spanish and and English words and (5) words from the other world languages. Little or no derivation or building up of words from roots and affixes was done. Whenever it was necessary to borrow a foreign word that consisted of more than one morpheme, this was taken in, assimilated and then regarded as a single morpheme.

The use of the foregoing list of linguistic sources often yielded native equivalents of the arbitrary English names to be translated. In astronomy, for example, the zodiacal constellation *Capricornus* was named in Pilipino as *Kambing*, which is the Tagalog word for *goat*. *Earth* as a synonym for *soil* is *lupa* in Tagalog, so the Lupon took the Visayan equivalent of *lupa*, which is *duta*, to denote *Earth* as a planet. In chemistry, *tin* as one of the elements was translated into *tinggaputi*, the old Tagalog word for this metal. However, the symbol *Sn* (from the Latin word *Stanum*) was retained in order to preserve the validity of chemical symbols and formulas.

There were many cases, however, where no simple solutions were possible and in such cases the Lupon did not hesitate to use direct loans, mostly from Spanish and English, but great care was taken that the incoming words were thoroughly assimilated in orthography and, consequently, in pronunciation. The following are some of the direct loans for names in science and technology as approved bv the Lupon.

1. Names of things and objects

English	*Pilipino*
antenna	antena
airplane	eruplano
vessel	barko
alkali	alka
acid	asid

2. Names of chemical elements

hydrogen (H)	haydrohen (H)
oxygen (O)	oksihen (O)
nitrogen (N)	nitrohen (N)
silicon (Si)	silikon (Si)
vanadium (V)	banadyum (V)

3. Names of Planets and stars

Mars	Marte
Jupiter	Hupiter
Mercury	Merkuryo
Cassiopeia	Kasyopeya
Orion, the Hunter	Oryon, ang Mangangas

4. Units of measurement

meter	metro
centigrade	sentigrado
watt	wat
radian	radyan
ampere	ampir

A few observations can be made on the above sample list of direct loanwords in Pilipino. It is easier for Pilipino to borrow from Spanish than from English because of the greater similarity between the Tagalog and the Spanish phonemes, and because Spanish orthography is phonetic to a high degree, although not as much as Tagalog. Direct loans from English (as *haydrohen* from *hydrogen*) suffer more spelling changes than those from Spanish.

All the Pilipino words in the right-hand column are to be regarded as single morphemes, regardless of their morphology in the donor languages. *Eruplano,* for example, is a single morpheme because the parts *eru* and *plano* are not individual morphemes, and have no separate meanings in Tagalog.

VII. Terms Should Be Rational

In translating the second group of words and expressions — the scientific and technical terms — the Lupon rigorously applied its theory that terms should be derived from root words (single morphemes) already existing and current in the Tagalog language, by using the rules of affixation, combination and reduplication recognized by the *balarila* or grammar of Pilipino. Terms express complex scientific concepts and relationships, and such abstractions are best conveyed by words having a consistent and rational morphology.

When terms are correctly derived and formed, they are self-explanatory, even to children in the grade schools who may be meeting them for the first time. This is why it is easy to teach basic science to Japanese elementary school children and very difficult to teach it to their English-speaking counterparts. Most of the abstruse scientific terms in English (such as thermodynamics and photosynthesis) that are frightening to youngsters, are so plain in Nippongo that they almost teach themselves.[21]

[21] Del Rosario, Op. Cit. (An Easier Method...)

To the Lupon, whose point of view is that of language engineering rather than of pure linguistics, root words are single morphemes regardless of whether they are native forms or borrowed ones. In the latter case, they are usually in the assimilated form.

Reverting to our former example, the word *kabayo,* borrowed from Spanish *caballo* (horse) is now a Pilipino root word from which have been derived the terms *mangabayo* (to go on horseback), *mangangabayo* (horseman), *kabayuhan* (cavalry) and *kaba-kabayuhan* (toy horse).

Applying this principle deliberately and consistently to all the science and engineering terms that were submitted to it for translation, the Lupon has prepared a terminology for the basic science concepts which it thinks will be adequate for science-teaching in the elementary schools, at least. Their consistent morphology is evident from the following examples:

English	*Pilipino*	*Etymology*
numeral	pamilang	pang- (instrument prefix) + bilang (number)
integer	buumbilang	buo (whole) + bilang (number)
fraction	bahagimbilang	bahagi (part) + bilang (number)
numerator	panakda	pang- (instrument prefix) + takda (schedule)
denominator	pamahagi	pang- (instrument prefix) + bahagi (part)
gravitation	kadagsinan	ka- (abstraction prefix) + dagsin (gravity), Ilk. + -an (abstraction suffix)
conductor (elec.)	saluyan	saloy (flow) + -an (location suffix)
nonconductor	disaluyan	di- (negation prefix) + saloy (flow) + -an (location suffix)
planetoid	malabuntala	mala- (semi) + buntala (planet)
alkalinity	kaalkahan	ka- (abstraction prefix) + alka (alkaline) + -han (abstraction suffix)
acidity	kaasdan	ka- (abstraction prefix) + asid (acid) + -an (abstraction suffix)
regeneration	balikhaan	balik (return) + likha (create) + -an (process suffix)

nucleolus	ibutod	i- (location prefix) + butod (nucleous)
linguistics	dalubwikaan	dalub- (expert) + wika (language) + -an (process suffix)
nationalize	sabansain	sa- (action prefix) + bansa (nation) + -in (action suffix)

A single example may be explained in detail to show why this method of deriving terms is the most logical in Pilipino. Take the English term *alkali* which the Lupon borrowed in the shortened form *alka.* All the other derivatives of this word can be easily formed from the root *alka* and the affixes of Pilipino. In particular, *alkalinity* would be *kaalkahan,* formed with the help of the prefix-suffix combination *ka- ... -an* which denotes the abstraction of the meaning carried by the root word. All normal Tagalog-speaking children above five years of age have unconsciously mastered this grammatical feature of their home language, and perfectly understand such abstractions as

kalinisan (state of being clean) from *linis* (cleanliness)
kagandahan (beauty, state of being beautiful) from *ganda* (beauty)
katahimikan (peace, state of being peaceful) from *tahimik* (peaceful)

Tagalog-speaking children know this type of word-formation so well that they themselves make their own instantaneous and temporary derivations or *nonce forms,*[22] when the occasion demands, even from root words that they have just heard. A small boy, age ten, when told by this writer that radioactive fallout was "deadly," immediately asked, "*Ano po ang dahilan ng kadedlihan niyon?*" (What is the reason for its "deadliness"?). The writer had not heard the word *kadedlihan* before.

Malay and Bahasa Indonesia have these same prefix-suffix combinations for expressing abstractions in the form *ke- ... -an,* as in:

kehinaan (meaness) from *hina* (mean, ignoble)
kebangsaan (nationality, nationhood) from *bangsa* (nation)
kekurangan (deficiency) from *kurang* (deficient)

On the other hand, if the English derivation *alkalinity* were to be borrowed in its original form, or in the assimilated form *alkaliniti,* we would either have to treat it as a single unwieldy morpheme or have in our hands a stray morpheme, *ity* or *iti,* which has no meaning in Pilipino. If we keep doing this, the affixal system of Pilipino would soon be chaotic and confusing, especially for children.

It should also be noted that consistent Pilipino terms derived in the manner just explained have just about the same length or morpho-

[22] Hockett, Op. Cit., p. 170.

logical complexity as their English equivalents, which must often be expressed in phrases, contrary to the belief of some that Pilipino words in science and technology are always longer than the corresponding English words.

VIII. Modernization of the National Languages Derived from Austronesian

By judicious application of the systematic methods outlined in the foregoing paragraphs, the Lupon sa Agham hopes to further modernize Pilipino in keeping with its role as the national language of the Philippines. The Lupon has to date (March 1968) succeeded in assembling a vocabulary of about 6,500 basic and consistent names and terms in the sciences, engineering and technology which, it is believed, is adequate for science-teaching in the grade schools.

It is hoped that this basic vocabulary will grow into a regular technical dictionary of some 200,000 entries in the next five years. Progress in the future should be more rapid than it has been in the past because the initial 6,500 entries would form the basis of further lexical development.

The lexicography section of the *Dewan Bahasa Dan Pustaka in* Malaysia and the Ministry of Education in Indonesia are similarly engaged in the modernization of Malay and Bahasa Indonesia, respectively, and are likewise utilizing as much as possible the native roots, affixes and morphology of their dialects together with assimilated loanwords from Dutch, English, Portuguese and Arabic.

It would appear that the Malaysian and the Indonesian modernization programs are even more advanced than the Philippine effort, as measured by the thicker and more impressive technical dictionaries that they have already published. This is mainly because the former two are state-supported while the Philippine effort has to depend on civic organizations and private persons.

However, the Lupon's program of language modernization is more systematic and rational, since it distinguishes between the arbitrary *names* and the predictable *terms,* and limits its direct borrowing from foreign languages to the former.

To point up the differences in the two types of language modernization programs, let us consider the following terms in English and Malay: [23]

microscopic ..... *seni*
microscopic plant ... *tumbohan seni*
microorganism ..... *hidupan seni*

[23] Dewan Bahasa dan Pustaka: *Istilah Ilmu Alam, Hisab* & *Sains* (Word Lists in Geography, Mathematics and Science), Kuala Lumpur, 1966 (?)

microbe ..... *mikerob*
micrometer ..... *jangkahalus*
microscope ..... *teropong hama*

Of the six Malay translations, the first three are done in a consistent manner, around the Malay root *seni,* which originally meant thin, very non-predictable in relation to *seni.* There are no doubt good reasons, fine, or weak. However, the last three words are non-consistent and based on usage, for their choice, but the possibilities of further systematization of related terms has been lost. This loss will be reflected later on in less quicker comprehension by grade school children.

Let us see now how the same problem was handled by the Lupon sa Agham.

microscopic ..... *mikmik* (Tag., very small)
microscopic plant ... *mikhalaman* (*mikmik* + *halaman,* plant)
microorganism ..... *miktataghay* (*mikmik* + *tatag,* organ + *buhay,* life)
microbe ..... *mikhay* (*mikmik* + *buhay*)
micrometer ..... *miksukat* (*mikmik* + *sukat,* measure)
microscope ..... *miksipat* (*mikmik* + *sipat,* peer)

The six Pilipino terms on the right hand column, all being loan translations of the six English terms on the left, are predictable on the basis of their morphology and the root word *mikmik.*

It would not be difficult to make slight adjustments in the Malaysian and Indonesian language modernization programs to allow for taking into consideration the differences between names and terms, and for applying the methods being used by the Lupon sa Agham. This means that Malay and Bahasa Indonesia should confine direct borrowing from the European languages to root words, and derive all terms from current Malay roots (including the assimilated foreign roots) using Malay morphology.

The Malay language has a morphology and affixal system similar to that of Tagalog, although the number of usable affixes in the latter is vastly more than that in the former. The *Surian ng Wikang Pambansa* (Institute of National Language) in Manila has counted more than 900 separate and identifiable affixes in Tagalog and the Lupon sa Agham has added to this a large number of new affixes and combining forms such as *bali-* (re, return), *dagi-* (electro), *mik-* (micro), *dak-* (macro), *-lap* (referring to electromagnetic radiation), etc.

The usable affixes in Malay probably do not exceed 100; Guillermo Tolentino could identify only 45.[24]

Modernized in this way, the Malay, Bahasa Indonesia and Pilipino national languages, would become effective and productive media of

[24] Tolentino, Guillermo E.: *Ang Mga Panlapi ng Malayo at ng Tagalog,* (The Affixes of Malay and Tagalog), MABUHAY, Manila, Dec. 3, 1960.

instruction in the elementary school systems of Malaysia, Indonesia and the Philippines. Mere Westernization and consequent irregularization of these languages would be avoided. Grade school children in these three nations would be able to learn content subjects in general, and the sciences in particular, much more quickly than they are doing now.

In truth, consistent and intelligent modernization of their national languages would enable the Malaysians, the Indonesians and the Filipinos to overtake and eventually surpass, in science and technology, the Western nations, whose national languages are burdened with large numbers of terms derived from Latin and Greek combining forms, which are no longer consistent with the home and community languages spoken by their children. Japan, with her consistent Nippongo, is demonstrating that this can be done.[25]

IX. Standardization of the National Languages Derived from Austronesian

With respect to language development, there are at least two kinds of standardization. One is internal standardization, and its minimum requirements include standardization of alphabet, spelling and pronunciation. In this discussion, we are assuming that this has been done in the three national languages under consideration.

In Pilipino, this was done in the 1930's when the *Balarila* or Grammar was approved by the *Surian ng Wikang Pambansa.* The Tagalog *abakada* of 20 letters was officially adopted, and spelling was to be completely phonetic with the exception of the two abbreviated forms *ng* and *mga.* In recent months, however, a last-ditch effort to adopt the English alphabet and English non-phonetic spelling has been waged by some articulate admirers of English and Spanish. The campaign is expected to fizzle out eventually.

The other form of standardization is external and regional, and has to do with further standardizing certain features of a group of already related languages. Obviously, this would be difficult to do with languages that are not related. But with Malay, Bahasa Indonesia and Tagalog, which sprang from a common ancestral language (referred to as Original Austronesian or Original Malayo-Polynesian), standardization may be possible to a limited extent.

At the end of the Kuala Lumpur Conference on "Modernization of Languages in Asia," the delegates adopted the following resolution:

> "This Conference urges that the UNESCO should establish a committee on the lines of ISO/TC-37 for coordination and standardization of terminology pertaining to science, technology and modern subjects which are being evolved in the national languages of Asia."

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[25] Del Rosario, Op. Cit. (An Easier Method...)

If the whole of Asia is to be the venue of this coordination and standardization, we would have to deal with several language families which include the Dravidian, the Indic, the Sino-Thai, the Khmer, the Japanese, the Korean and the Austronesian. There would be so much difference in morphology and orthography that lexical standardization may neither be feasible nor desirable.

To be consistent with the Lupon's approach, let us consider the standardization of names and terms separately.

In Malay, Bahasa Indonesia and Pilipino, there is a possibility of approximately standardizing some terms, due to similarity of affixes and morphology, as may be seen in the following examples: [26]

Pilipino	*B. Indonesia*	*Malay*	*English*
kabansaan	kebangsaan	kebangsaan	nationhood
pasukan	pemasukan	pemasukan	entrance
dala-dalawa	berdua-dua	berdua-dua	in twos, by twos
mamahagi	membahagi	membahagi	to partition
manggiling	menggiling	menggiling	to grind

However, even such approximate standardization of terms is not possible between, say, Japanese and Pilipino, or between Chinese and Hindi.

The situation is different with respect to names. Since the Lupon's rule is that these may be borrowed in assimilated form whenever they are not present in the recipient language, the various Asian languages may find that they are borrowing the identical words. Among Malay, Bahasa Indonesia and Pilipino, we have the following common names, borrowed but assimilated from English: [27]

Pilipino	*B. Indonesia*	*Malay*	*English*
gramo	gram	gram	gram
gasolina	gasolin	gasolin	gasoline
tseke	tjek	chek	cheque
tsokolate	tjoklat	chocolat	chocolate
soda	soda	soda	soda

Regional standardization may therefore be possible on a very limited basis with respect to terms, and on a broader basis with respect to names.

On the basis of Asia as a whole, the only standardization possible would be with respect to certain names such as measurements, names of elements and chemical compounds, names of the stars and planets, systematic nomenclature of plants and animals, and similar concrete objects.

X. Towards a World Language

The ideal linguistic situation not only for Southeast Asia but for the whole world as well, is for each nation to develop and maintain a single,

[26] Aspillera, Paraluman S.: *A Common Vocabulary for Malay-Pilipino-Bahasa Indonesia (Part I)*. Published by the Institute of Asian Studies, University of the Philippines, July 1967.

[27] *Ibid.*

vigorous national language having its own internally consistent scientific and technical terminology. This would enable children everywhere to attain a high level of scientific learning early in their lives.

Sufficiently early in their elementary schooling, but not so early that learning the national language would be impaired or disturbed, the children would be taught a foreign language for world intercourse. For the moment, this other language is English but, depending on the world's political situation, it could as well be French, or German, or Russian, or Mandarin Chinese, or Japanese in the future. It could even be a language that at present has no pretensions for world usage, but might unexpectably attain that stature due to its consistency and efficiency.

In any case, the function of a world language is to serve as a link language in international diplomacy, world trade, international travel and similar global undertakings. This link language should not, and cannot, replace the indigenous, internally consistent national languages, which have their own functions as explained in the earlier part of this paper.

Many American educators, perhaps in their genuine eagerness to be of help, are trying to propagate the English language among the developing countries as if they would one day replace Pilipino, or Bahasa Indonesia, or Malay, as the case may be. Scholarships, study grants, book donations and other attractive forms of patronage are the tools in this world-wide drive to sell the English language as a substitute for the national languages.

This is a big mistake. Beyond its curious mixture of altruism and interventionism, the campaign looms as a form of linguistic imperialism which always precedes the other forms. Arnold J. Toynbee, in a recent article,[28] asked: "Is modern Asia going to succumb to an American fourth wave of foreign aggression? Or is the United States in Southeast Asia today, like Italy in Ethiopia between the two world wars, commitmitting the kind of error that has been cynically pronounced to be something worse than a crime?"

Toynbee didn't know and his answer was no better that what most of us can give: "Time will show."

In the meantime, we can help America avoid committing the terrible blunder by assidously modernizing the national languages of Southeast Asia, and working for a limited form of regional standardization in scientific and technical nomenclature, in the manner presented in this paper.

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[28] Toynbee, Alfred J.: *The Imperialists — V: The End of a Turbulent Era,* The Asia Magazine, February 25, 1968.