

"All the sciences concerned with human beings that range from the abstractions of economics through sociology to anthropology and psychology are, in part, efforts to lower the degree of empiricism in certain areas; in part they are efforts to organize and systematize empirical procedures."¹⁴

One might therefore view our concern with experimentation in the social sciences as a final step which has evolved in our process of intellectualization—a step made necessary by our need to know the mysteries of our own human behavior. That it has evolved last, that man has turned his intellectual quests finally to the study of man and his societies after first disenchanting the non-living world and then the living world without man in it suggests an optimistic view to the scientific

¹⁴ Conant, 1951, *op. cit.*, p. 129.

enterprise. It reflects a sense of consciousness, of awareness, finally, that to seek and to know the truth is not the final goal, in society. In science, it is. But in society, the final goal is to know what to do with the truth, once you have it. Thus, the evolution of the social sciences, arriving on the scene last, can be interpreted as appearing on the scene late not because of its lack of importance but because of it.

The application of the social sciences are pervasive throughout the other sciences because it attempts to provide us with the nature of the truth about ourselves. To the extent that scientific truth calls for choices to be made all along the line, the contributions of the social sciences to our self-understanding as human beings enables us to make better choices and to better live with them.

The Subgrouping of Philippine Languages

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The Philippine languages belong to a well-known family of languages called the Malayo-Polynesian. The term "Malayo-Polynesian" was first used by the eminent linguist, Wilhelm von Humboldt in 1836 when he tried to establish the relationship of the Indonesian languages to the Polynesian.¹ Later, in 1876, Friedrich Müller called these languages "Austronesian"², a term which is now becoming more widely accepted as a term which describes

better this vast group of languages (now estimated to be around 500 or 1/8 of the world's languages), whose speakers are spread out from Formosa in the north to New Zealand in the south, from Easter Island in the east to Madagascar in the west. A recent study by Isidore Dyen has also indicated that approximately three-fourths of the Austronesian languages belong to the Malayo-Polynesian subgroup and that the rest are broken down into isolated languages or small language groups chiefly confined to Melanesia.³

¹ Wilhelm von Humboldt, *Über die Kawi-Sprache auf der Insel Java* (3 vols.; Abhandlungen der königlichen Akademie der Wissenschaften zu Berlin, 1836-39).

² Friedrich Müller, *Grundriss der Sprachwissenschaft* (4 vols.; Vienna: Alfred Hölder, 1876-88).

³ Isidore Dyen, *A Lexicostatistical Classification of the Austronesian Languages*, Supplement to *International Journal of American Linguistics*, Vol. 31, No. 1, 1965.

Several linguistic features unite this vast group of Malayo-Polynesian languages, among which are the following: a) the phoneme inventory: */a, i, u, e; p, t, T, k, b, d, g, R₁, R₂, R₃, R₄, D, Z, s, z, c, r, j, m, n, ñ, ŋ, w, y, W-, x₁-, x₂-, x₃-, q, h; aw, ew, iw, ay, ey, uy/⁴, b) the word structure: CVCV (e.g. * limá 'five'), CVCVC (e.g. * lanit 'sky, heaven'), CVCCVC (e.g. * TukTuk)⁵, c) the use of affixation (or the addition of infix, prefix, suffix to an underlying form or base) as opposed to inflection, d) the numerals: * esa, Dewhá, telú, x₂epat, limá, x₃enem, pitú, walú, siwa, pulúq.

The Philippine languages, as a subgroup of this Malayo-Polynesian group, are likewise widely recognized. Some of the linguistic features which characterize the group are: a) the merging of the following protophonemes enumerated above: * t and *T > t; *s and *c > s; *n and *ñ > n; * W-, * x₁-, *x₂-, *x₃-, * q > q; b) the occurrence of a glottal stop before any sequence which has initial vowel in the proto-language: thus, * #V- > qV-; c) the innovation of * siyá, 'he, she, it' by analogy with *SiDa 'they', and the common possession of the word * siam for 'nine', as against * siwa of non-Philippine languages, d) the use of the infix * -imin- as the past or actual of the transient formation with * um.⁶

Within the Philippine group, Dyen has also identified a subgroup which he calls

⁴ This inventory is from Otto Dempwolff's *Vergleichende Lautlehre des austronesischen Wortschatzes* (3 vols.; Beihefte zur Zeitschrift für Eingeborenen-Sprachen, nos. 15 [1934], 17 [1937], 19 [1938]; Berlin: Dietrich Reimer). I. Dyen has modified this inventory by adding /Z, W-, x₁-, x₂-, x₃-/, and provisionally also /R₁, R₂, R₃, R₄/; see his articles "Proto-Malayo-Polynesian Z", *Language* 23.227-38 (1947), "Dempwolff's R", *Language* 29.259-66 (1953), "Some New Proto-Malayo-Polynesian Initial Phonemes", *JAOS* 82.214-215 (1962).

⁵ There is a sizeable number of repeated monosyllabic bases, e.g. * seksek, *DapDap, etc.

⁶ From my own work, I have added provisionally *e₂, *L₁, *L₂, *L₃.

"Tagalic"⁷ and which includes at least Tagalog, Bisayan (and its dialects: Cebuano, Hiligaynon, Samar-Leyte), and Bicol. This subgrouping is supported by the following exclusively shared innovations: a) their treatment of * e, * d, *D, *j, *z, *r; b) the fact that each language—and in the case of Bisayan, each dialect—treats * d and *z alike and *D and *j alike so that their correspondences are different only in four respects: *e, *d-z, *D-j, and *r; c) many agreements in vocabulary, syntax and morphology.

The facts which I have so far given to support the subgrouping of the Malayo-Polynesian, Philippine, and Tagalic languages were all arrived at by the so-called "comparative method"⁸, which determines the inter-relationship between languages of the same family by their exclusive sharing of innovations. But this is not the only method used by scholars in their efforts to determine the interrelationship between languages of the same family. There is also, for instance, the so-called "judgment by inspection"⁹ which was used so effectively by Joseph Greenberg in his work on the African languages, by which a multiplicity of shared differences in phonology, morphology, syntax, or lexicon, whether

⁷ Isidore Dyen, *The Proto-Malayo-Polynesian Laryngeals* (Baltimore: Linguistic Society of America, 1953), pp. 6-7.

⁸ The comparative method is the study of related languages which have developed from a common parent language. This method was developed especially by the detailed study of the Indo-European languages by such men as Rasmus Rask in 1818 (*Undersøgelse om det gamle Nordiske eller Islandske Sprogs Oprindelse* 'Investigation of the Origin of the Old Norse or Icelandic Language') and Franz Bopp in 1816 (*Über das Conjugationssystem der Sanskrit Sprache*) and by the neo-grammarians August Leskien, Karl Brugmann, August Schleicher, Johannes Schmidt in the 19th century. The principle of subgrouping by "exclusively shared innovations" was first used by Karl Brugmann. See his "Zur Frage nach den Verwandtschaftsverhältnissen der indogermanischen Sprachen", *Internationale Zeitschrift für allgemeine Sprachwissenschaft* 1.253 (1884).

⁹ This term was used by I. Dyen in his review of Otto Chr. Dahl, *Malgache et maanjan: une comparaison linguistique* in *Language*, 29 (1953) 577-590.

or not these are exclusively shared innovations or retentions is used as the basis of subgrouping.

In his study of 75 linguistic and ethnic groups in the Philippines, Harold C. Conklin made a preliminary subgrouping of the languages,¹⁰ employing the same method. Conklin divides the linguistic groups¹¹ first of all geographically into Luzon, Bisayas and Mindanao, and then gives the subgroups of these three major groups directionally from North to South and from East to West. Linguistically, only two of these groups were easily discernible at the time: 1) a *northern group* centering in northern Luzon and including such languages as Ivatan (with Batan and Itbayat), Kalinga (with Abling-Saligsig, Kalagua, Nabayugan, Mangali-Lubo, Lubuagan, Sumadel, Balbalasang-Ginaang), Gaddang (with Gaddang proper, Yogad, Maddukayang, Katalangan, Iraya), and

¹⁰ This was a pioneer attempt to subgroup the Philippine languages and Conklin did it as a graduate student at Yale University in 1952. He entitled his paper "Outline Gazetteer of Native Philippine Ethnic and Linguistic Groups".

¹¹ There is no agreement on the number of Philippine languages. In 1931, Cecilio Lopez reported that "The estimated number of Philippine languages varies according to different authorities. The well-known Spanish Filipinologist, W. E. Retana, in his latest bibliographical work on the Philippines, enumerates twenty-five different idioms; the great Philippine specialist, Ferdinand Blumentritt, in his brief survey of Philippine races and languages, mentions at least thirty; in an encyclopedic work on the Philippines prepared by the Jesuits, the number given exceeds fifty; while O. Beyer gives forty-three languages excluding the minor dialects" in "The Language Situation in the Philippine Islands" Institute of Pacific Relations 4 (Hang Chow: 1937), p. 1. In 1939 the Philippine Census Bureau said that there were seventy languages of which the following were the eight major languages: Tagalog (with 4,068,565 speakers), Cebuano (with 3,854,299 speakers), Ilocano (with 2,353,318 speakers), Hiligaynon (with 2,063,744 speakers), Bicol (with 1,289,424 speakers), Samar-Leyte (with 1,051,438 speakers), Pampango (with 621,455 speakers), and Pangasinan (with 573,752 speakers). The 1960 Census gives the following figures: Tagalog (with 5,694,072 speakers), Cebuano (with 6,529,882), Iloko (with 3,158,560), Panay-Hiligaynon (with 2,817,314), Bicol (with 2,108,837), Samar-Leyte (with 1,488,668), Pampango (with 875,531), Pangasinan (with 666,003).

Isinai, 2) a *central group* centering in the regions bordering the Sibuyan Sea (between southern Luzon and the Bisayas) and includes such languages as Sugbuhanon (or Cebuano), and probably (because of scanty evidence) Dumagat (with Sierra Madre), Polillo, Alabat, Kalawat), Negrito (with Bataan-Zambales Mt., Apayo Swamp, Paranan, Baluga, Agta), Pula, Bataan, Bangon, and Agtaa.

Building on the results of Conklin's work and on that of Fox, Eggan and Sibley¹², the Subcontractor's Monograph, which appeared in 1955, divided the Malayo-Polynesian languages into four "traditional" branches: Indonesian (Malayan), Melanesian, Micronesian, and Polynesian. The Philippine languages were then subsumed under the Indonesian branch of the family.

Within the Philippine group of languages, there were three subgroups enumerated:

- I—Northern Luzon—most of the languages north of the languages enumerated under II below, Iloko being the major language.
- II—Central Philippine—Tagalog, Sugbuhanon (Cebuano), Hiligaynon, Samar-Leyte (Waray-Waray), Bicol, and most of the languages spoken in southern Luzon, the Central Islands and Mindanao.
- III—Southern Mindanao—Tiruray, Bilaan, Tagabili and most of the languages south of those languages listed under II above.

Recently, a number of linguists made use of a comparatively new method of subgrouping called "lexicostatistical classi-

¹² See Robert E. Fox, Willis E. Sibley, and Fred Eggan, "A Preliminary Glottochronology for Northern Luzon", *Proceedings of the Eighth Pacific Science Congress* (in 1955 this was in the process of publication).

fication"¹³ to determine the interrelationships among the languages. In 1962, David Thomas and Alan Healy, using Swadesh's 200 word list and Lees' 80.5 per cent morpheme retention rate per millenium, arrived at the following results:

"From the evidence presented later in this paper, it seems most probable that there have been at least three occasions of large-scale dialect divergence during the period of Malayo-Polynesian linguistic expansion in the Philippines. Around 700 B.C. the Philippine Stock split into a Northern Philippine Family, a Southern Philippine Family, and Pangasinan. Around 200 B.C., the Northern Philippine Family split into at least three branches: the languages of Mountain Province, Ilocano and the languages of the Cagayan River valley, and Inibaloi. Then around 100 B.C., the Southern Philippine Family split into at least ten branches: Tagalog, Sambal, Cuyunon, Batak (and possibly the other Palawan languages), Bikol, Visayan languages, Davaweño languages, Subanon, Maranao, Magindanao, and the Manobo languages. That the expansion of the Northern and Southern Philippine Families began at approximately the same time invites speculation about a common cause. Since the second century B.C. further expansion has taken place in most of the branches of both the Northern and Southern Philippine Families, but detailed glottochronological analyses of these are not attempted in the present study.

"It seems probable that on two prior occasions the Philippine Stock

was involved in dialect divergence with other outlying languages of the Philippines and with other Malayo-Polynesian languages, such as those of Vietnam. Around 1100 B.C. the Philippine Superstock split into the Philippine Stock and several isolated languages of the northeastern Philippines (Ivatan, Ilongot, Baler Dumagat, and possibly other Dumagat languages). Probably around 1300 B.C. some larger grouping (which may well prove to be a sizeable part of Proto-Indonesian) split into the Philippine Superstock, the Southern Mindanao Family (Bilaan, Tagabili, and probably Tiruray), and a stock including Malay and the Cham Family of Vietnam. It still remains to be seen whether any of the languages of Borneo, Celebes, western Micronesia, or Formosa belong to the Philippine Superstock, or whether their relationship to the Philippine Stock is more remote."¹⁴

In January, 1965, Isidore Dyen published the subgrouping results which he arrived at by using the same method, namely, lexicostatistics. Since the results were quite complex, Dyen felt that more precise terms had to be introduced and used to deal effectively with the data.

Every language (and there were 245 represented by 371 word lists) was assigned to formally discrete groups and these groups were identified on the basis of their *critical difference* (CD). A group is either an open or closed group. A *closed*

¹³ The lexicostatistic method was devised by Morris Swadesh on an analogy with the technique of radiocarbon dating (see "Lexico-statistic Dating of Prehistoric Ethnic Contacts," *Proceedings of the American Philosophical Society* 96:52-463 (1952). A gloss list of 200 items is prepared for each language, and a pairing of each item on the list is made with each item on the gloss list of another language. Cognates are then counted and percentages of cognates counted. On the assumption that languages change their basic vocabulary at a constant rate (e.g. R. B. Lees' 80.5 percent per millenium) a subgrouping is arrived at since presumably two languages which have the highest number of cognates were most recently one language. See also I. Dyen, "The Lexicostatistical Classification of the Malayo-Polynesian Languages" *Language* 38:38-46 (1962).

¹⁴ A good summary and representation of the analysis in ethnological terms is found in George P. Murdock's review of the work in *Ethnology* 3, no. 2 (April, 1964), 117-126.

It should be noted that the Chi-square (X^2) of observables of percentages differing by 9.5 pp. or greater on a base of 200 is significant at 5 pp., i.e., there is 1 change in 20 that the group is discrete by chance. The X^2 of percentages differing by 8 pp. is significant at 10 pp., i.e., there is 1 chance in 10 to 20 that the group appears to be discrete by chance. Hence, the probability of adding new members to either a subfamily or a genus is only 1 in 10. On the other hand, the probability of adding new members to either a cluster, a hesion, or a linkage is rather high. In effect, members of a closed group are treated as dialects of the same language since language limit is set at 70.0%.

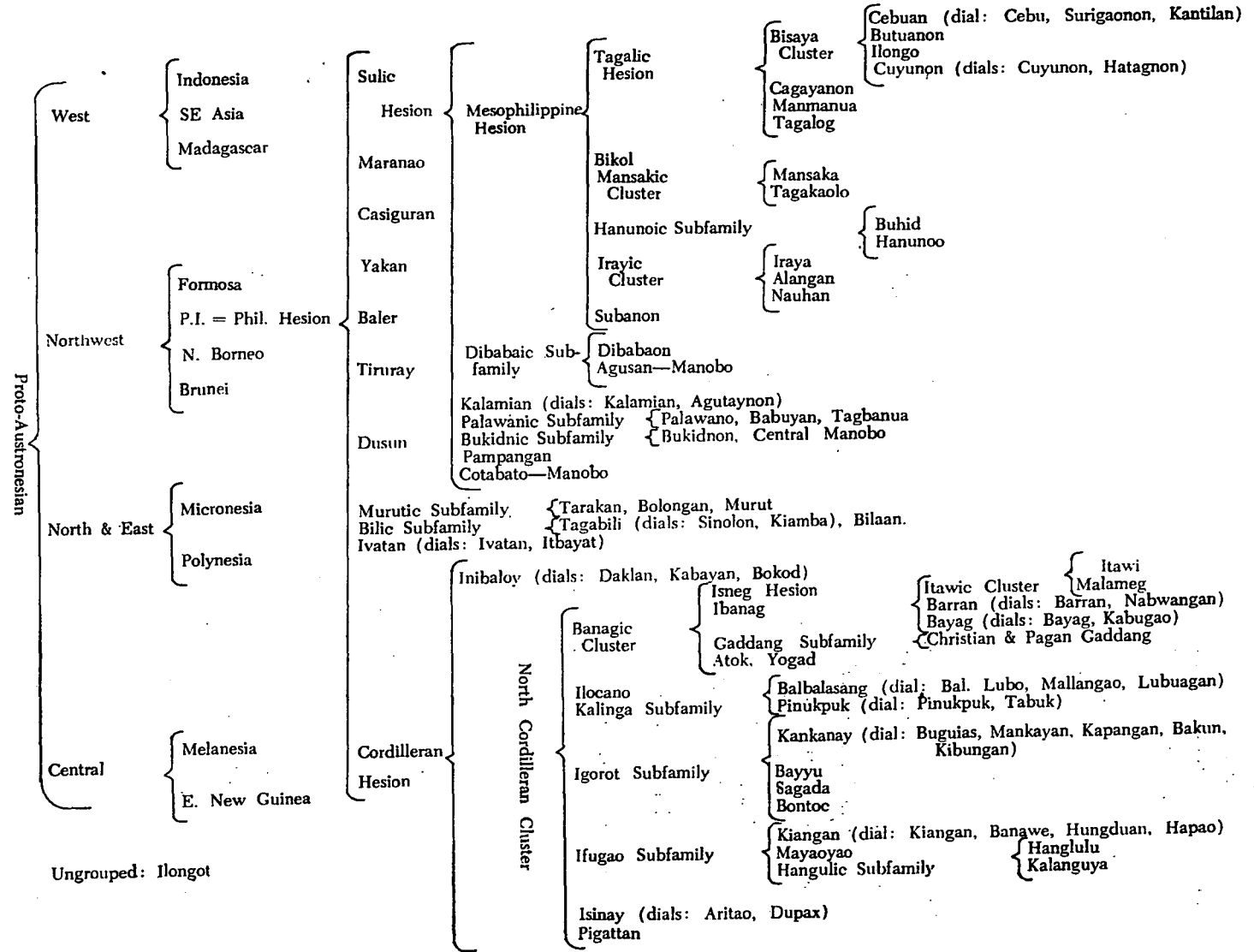


FIGURE 1. LEXICOSTATISTICAL SUB-GROUPING OF PHILIPPINE LANGUAGES

group is either a *subfamily* (with 9.5 pp. CD or greater) or a *genus* (with 8 pp. or greater but less than 9.5 pp. CD). An *open group* is either a *cluster* (with 5.0—7.0 pp. CD), a *hesion* (with 2.5—4.9 pp. CD), or a *linkage* (with less than 2.5 pp. CD).

The CD of a group is the amount of difference between the lowest basic percentage of the group and the highest percentage of any member of the group with a non-member. A critical percentage which has been used to form a group is called the *basic percentage* of that group. The percentage by which a language or group is classified together with other languages or groups is called its *critical percentage*.

A group is called a subgroup if the size of its CD is unknown or uncertain.

Following this procedure, Dyen arrived at the subgrouping of the Philippine languages described in the diagram below (see figure 1). The division of the Austro-nesian languages into four groups, namely, West (which includes Sarawak, Indonesia, Southeast Asia and Madagascar), North-

west (which includes Formosa, P.I., N. Borneo, and Brunei), North and East (which includes Micronesia and Polynesia), and Central (which includes Melanesia and East New Guinea) is geographical. The Philippine languages have been assigned to the Northwest group as mentioned.

Undoubtedly, this subgrouping leaves many gaps, for many languages were not included in the computations, as for example, Tausog, Waray, Pangasinan, Zambal, etc. In addition, some of the conclusions do not agree with the previous results arrived at by the other previous subgroupings. There is need, therefore, for further study, and most of all for a thorough investigation of the linguistic features which could reveal the interrelationships between these languages.¹⁵

¹⁵ For an eloquent plea not to be satisfied with the results of the results of lexicostatistical computations which is a purely quantitative approach and to employ the comparative method in determining the interrelationships between languages of the same family, see Robert E. Longacre, "Swadesh's Macro-Mixtecan Hypothesis" *International Journal of American Linguistics* 27.9129 (1961).

A Note on Predication in Tagalog*

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Leonard Bloomfield, who wrote his grammatical analysis of Tagalog in 1917¹, posited three types of syntactic relations in Tagalog, namely, 1) attribution, e.g., *Ina ko!* 'Mother (of) mine!', 2) predication, e.g., *sumusulat siya* 'he is writing', 3) the serial relation; e.g., *buto't balat*

'bone and skin'. For Bloomfield, most sentences consisted of a subject and a predicate (as in the construction *sumusulat siya, siya'y sumusulat*), but a few did not have such a structure. These may be subsumed under two groups: 1) impersonal-anaphoric, e.g., *umuulan* 'it is raining', and its sub-groups: namely, expressions of indefinite quantity, e.g., *walang papel* 'there is no paper' or *mayroong asuwang sa bayan* 'there is a vampire in the town', and expressions of occurrences in-

* I have profited from discussions with Prof. Isidore Dyen of Yale University in the preparation of this article.

¹ Leonard Bloomfield, *Tagalog Texts With Grammatical Analysis* (Urbana: University of Illinois, 1917) pp. 146-153.