At the opposite end of this range stands the linguist (Bernard Bloch, Robert Lado, Freeman Twadell) and the clinical psychologist (William J. Morgan). Their point of departure is not language, the abstract system, but speech, the human activity, man talking, man meeting changing situations. Somewhere in the gray middle reaches of this range the dedicated humanist, primarily the professor of literature, wanders about in a kind of limbo, fluctuating between rejecting language (the mechanical system) and embracing speech as an integral part of human activity. As a consequence, Professor Hill can be indifferent to the question of whether his method is linguistic or literary and Professor Spratlin can be unaware of the fact that he is not teaching literature but a very special set of human habits which are characteristic of the process of communicating information and emotional attitudes.

It would seem, as a result, that there is great need for a repeat performance of the round-table conference in which attention will be focused, first, on assumptions, second, on the criteria which are supposed to validate these assumptions, third, on the validity of the systematic formulations derived from these criteria and assumptions, and, finally, on whether it is possible to transform one formulation into the other. Unless such a transformation is possible, it is obvious that the dichotomy which was unconsciously established by the present conference has no counterpart in reality and that a large segment of current theory and research is predicated on assumptions which cannot be validated. If this is so—and the present conference seems to suggest that it is—then the sooner this fact is recognized the better.

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ON THE ETYMOLOGY OF SOME ARAWAKAN WORDS FOR THREE

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In the chapter of his Primitive Culture (3rd. ed., London 1891) on The Art of Counting, Edward B. Tylor remarked that 'when a word has once been taken up to serve as a numeral, and is thenceforth wanted as a mere symbol, it becomes the interest of the language to allow it to break down into an apparent nonsense-word, from which all traces of original etymology have disappeared'; and he therefore considered it unprofitable to seek 'the origin of numerals not named with reference to hands and feet, and especially of the numerals below five, to which such a derivation is hardly appropriate'. This seems to be borne out by the numeral system of modern Lokono, in which aba *one*, bian ~ biani-*two*, kabun ~ kabuni-*three*, and bibiti ~ biti ~ bis-*four* most probably have no other meanings for native speakers of today; although aba dakabo *one my-hand* or *five*, bian-kotibena *twelve* (cf. -koti *foot*), and loko *person* or *twenty* are still transparent.

Moreover, this 'breaking-down' process may be observed by comparing different stages of the same language or dialect, and different languages of the same family. So, for Lokono, de Goeje (1928) recorded biama *two* and kabuin *three*, while Daniel Brinton (1871) gave kabuhin *three*, bibuti (as well as bibiti) *four*, and aba kutihibena *eleven*; with which compare the forms cited in the preceding paragraph from Hickerson (1953).[1] The only surviving dialect of related, so-called Island Carib[2] has borrowed terms from French for all numerals above three; but the recently extinct (circa 1920) dialect of Dominica had ábą ~ ábana *one*, bíama *two*, írua *three*, and biąburi *four*; this last being transparently derived from the word for *two*, and containing a productive suffix

[1] References are to: Daniel Brinton, The Arawack Language of Guiana, APS-T, 14.427–444 (1871); C. H. de Goeje, The Arawak Language of Guiana (Amsterdam, 1928); Nancy P. Hickerson, Ethnolinguistic Notes from Lokono Lexicons, IJAL 19.181–190 (1953).

[2] 'It is better for science to accept a faulty name which has the merit of existence, than to burthen it with a faultless newly invented one'. T. H. Huxley, in Methods and Results of Ethnology (1865).

-buri *multiple*. If further proof of this derivation were needed, it would be found in the recorded numerals of related though long extinct Taino: hequeti *one*, yamoca *two*, canocum *three*, and yamoncobre *four*, (so spelt in the sources).

It will be seen that the Taino word for *one* and the Island Carib word for *three* are unrelated to their Lokono equivalents; the former having obvious Lokono and Island Carib cognates meaning *alone or only*, while the latter (early Dominican élua, recent Dominican írua, Central American órua) was undoubtedly borrowed from Cariban Kalina (oroa, awrua, etc. in modern Guianese dialects). Such ambiguity as may result from the use of a single term meaning *one* or *alone* has often led to supplementation and semantic narrowing; but by the middle of the seventeenth century, Island Carib apparently lacked any obvious cognate of the Lokono word for *three*.

Taken by itself, the resemblance between Lokono -kabo (Brinton has akkabu) *hand* and kabuhin > kabuin > kabun *three* might well be passed over as a coincidence; but it becomes significant on comparison with equivalent forms of related languages, such as Goajiro ahap·u *hand* and apuni *three*, Arauá -safá *hand* and arisafa-há *three*, Paumari -θee-i *hand* and bakuθe-ki *three*; the more so since Kulina -baku *heart, chest, palm (of the hand), sole (of the foot)* suggests that the first element in bakuθe-ki *three* of closely related Paumari may well be a cognate of like meaning.

Now according to Raymond Breton, the word 'eúkê *noyau, & tout autre chose qui a une enveloppe*' was employed by the Indians of 17th-century Dominica to designate, according to qualification or other context, such various things as: *semen, white (of egg), pus (from a boil), starch (of manioc), (iron) rust, 'gold, silver, talcum & other precious things that the earth produces and contains in its bowels', lining (of a basket), centre (of a target), glans (of the penis), vulva*.[3] These last two meanings of (phonemic) óko were also recorded by me from living, Creole-speaking Dominican Caribs; while in the modern dialect of Central America, this word has split into ógo *vulva* and óho *pus, starch (of manioc), extract or essence (of anything)*. Clearly cognate with these forms is (Hickerson's) Lokono -oko *pus, sap*, which is, in all probability, the same morpheme as (Brinton's) Lokono ükkü *heart*, whence his ükkürahü *pus, those of one blood—family, tribe*, and üküahü *person*. It is this word, oko or uku or its parent-form, that I propose as the second member of a one-time Arawak compound meaning *hand-nucleus*, or *three*.

Semantically, the plausibility of this interpretation is enhanced by a piece of information recorded by Gumilla and cited by Tylor (p. 245); 'the mode of showing the numbers with the fingers differs in each nation', he says. 'The Otomacs to say "three" unite the thumb, forefinger, and middle finger, . . . The Tamanacs show the little finger, the ring finger, and the middle finger, . . . The Maipures, lastly, raise the fore, middle, and ring fingers, . . .' Of these, only the last-named speak, or spoke, an Arawakan language.

Phonetically, it is at least not invalidated by insuperable difficulties. If Lokono kabuhin and Taino canocum (both meaning *three*) are cognates, as seems most probable, the latter form must result from 'distance-metathesis' in an older *kamokun;—unless, indeed, it was this hypothetical word whose nasal consonants became transposed through faulty hearing, transcription, copying, or printing. In any case, the final vowel of kabo- *hand*, or the first vowel of -oko (or -uku) *nucleus, etc.*, would regularly be lost in compounding; while according to both Brinton and Hickerson, -n is a subordinating nominal suffix in Lokono. The passage from k to h is common in Arawakan

[3] See Raymond Breton, Dictionaire Caraibe-François . . . , (Auxerre, 1665); édition fac-simile Jules Platzmann (Leipzig, 1892), p. 224 et seq.

languages; so, early Dominican iáka *here* corresponds to iáha *here* of both recent Dominican Island Carib and of Lokono; while Brinton wrote kassaku and kassahu, both meaning *firmament*, on the same line. Nor is the passage from o (or u) to i—or vice versa—unusual when, as is the case in Island Carib and—to judge by both Brinton's and de Goeje's employment of the umlaut—also in Lokono, the former phoneme represents a back unrounded (or it may be, in Lokono, a front rounded) vowel; so, Lokono bibuti > bibiti *four*, and Lokono: Island Carib isi : icígo ~ icógo *head*, isiroko : ógorogo (Dominican ékriko) *flesh*, aduka ~ adoka ~ adika : arîha (early Dom. arîka, recent Dom. arîha) *see*.

DOMINICA, BRITISH WEST INDIES

ON LANGUAGE AND CULTURE

JOHN LOTZ

'Ideal targets' for records in sports provide a case-study in the currently fashionable discussion on the interrelation between language and culture. The difference between Anglo-Saxon countries and countries using the metric system may further elucidate the role of the linguistic factor.

In May 1954, when Bannister ran the 'dream mile' (one mile in less than 4 minutes), the newspapers listed a number of other ideal objectives in sports: 9 seconds for the hundred-yard dash, 7 feet for the high-jump, 16 feet for the pole-vault, 60 feet for the shot-put (this one was achieved a few days later). These objectives were for male athletes; one can also add the 'dream mile' for women: one mile in less than 5 minutes (also reached in the same month).

All such 'ideals' aim at lowering the record time for running certain standard distances to a fixed number of seconds or minutes, or, in field events, at raising the length or height of the existing record to a fixed number of length units. The numbers involved are simple integers when the target number is low, and 'round figures' when the number is higher (4 minutes, 12 feet, 60 feet, but not $3\frac{3}{4}$ minutes for the mile or 61 feet for the shot-put). Such targets of course exist in other sports as well (e.g. in weight-lifting, or the 0.300 batting average in baseball).

That these targets depend on the use of language and not on other factors is demonstrated by the difference between the formulations of such targets in Anglo-Saxon countries and in countries using the metric system. The latter list as ideal targets: 10 seconds for 100 meters, 20 kilometers for the one-hour race, 80 meters for javelin-throwing, etc. Because of this dependence on language, such targets cannot be 'adequately' translated: to try to run 1603 meters in 4 minutes is not the same thing as shooting for the 4-minute mile.

These targets must be within reasonable reach, just above the present records, and therefore an ideal target can normally be formulated in only one measuring system; for instance in the high jump the target in Anglo-Saxon countries is 7 feet, half an inch above the present world record of 212 centimeters: 220, or even 225, is neither 'round' enough, nor realistic enough.

When such an ideal target is fashionable in the world of sports, as e.g., the 4-minute mile, the number of occasions on which that event is put on the program also increases (e.g., the one-mile race was often run in the 'metric' countries of Europe). When the ideal is achieved, that target gradually becomes obsolete; this has happened to the 30-minute 5 kilometers, and it will happen to the dream mile.

It seems clear that these ideal targets for sports records presuppose a general cultural setting of a non-verbal sort: appreciation of number and quantity, high valuation and meticulous recording of top physical performance, a realistic appraisal of man's physical abilities using the present top achievement as a reference point and extrapolating from there. But these targets must also be formulated verbally. The verbal expression is an attributive phrase consisting