

On Polysynthesis and Incorporation as Characteristics of American Languages. By Daniel G. Brinton, M. D.

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SYNOPSIS.

Races of mankind as co-extensive with linguistic groups.—Problems of American languages.—History of the doctrines of Polysynthesis and Incorporation.—Preliminary cautions.—Erroneous statements about aboriginal tongues.—Teachings of Duponceau.—Of Wilhelm von Humboldt.—Of Francis Lieber.—Of H. Steinthal.—Of Lucien Adam.—Of Friedrich Müller.—Of J. W. Powell.—Definitions of Polysynthesis, Incorporation and Holophrasis.—Examples of these processes.—Examinations of American tongues in which they are alleged to be absent.—(1) The Othomi and associated dialects—(2) The Bri-Bri and other Costa Rican dialects—(3) The Tupi-Guarani dialects—(4) The Mutsun.—Conclusions.

The division of the species Man into subspecies or races is not as yet a settled point in ethnology. The tendency, however, is to return to the classification proposed by Linnaeus, which, in a broad way, subdivides the species with reference to the continental areas mainly inhabited by them in the earliest historic times. This is found to accord with color, and to give five subspecies or races, the White or European, the Black or African, the Yellow or Mongolian (Asiatic), the Brown or Malayan (Oceanic), and the Red or American Races.

No ethnologist nowadays will seek to establish fixed and absolute lines between these. They shade into one another in all their peculiarities, and no one has traits entirely unknown in the others. Yet, in the mass, the characteristics of each are prominent, permanent and unmistakeable; and to deny them on account of occasional exceptions is to betray an inability to estimate the relative value of scientific facts.

In the Science of Language it becomes of the highest importance to ascertain whether any such general similarity can be demonstrated between the tongues spoken by members of the same race.

On the surface, this is not apparent. Only one of the races named—the Malayan—is monoglottic. All the others seem to speak tongues with no genetic relationship, at least none indicated by etymology. The profounder study of language, however familiar to modern science, leads to a different conclusion—to one which, as cautiously expressed by a recent writer, teaches that “every large, connected terrestrial area developed only one, or scarcely more than one, fundamental linguistic type, and this with such marked individuality that rarely did any of its languages depart from the general scheme.”*

This similarity is not to be looked for in likeness between words, but in the inner structural development of tongues. To ascertain and estimate such identities is a far more delicate undertaking than to compare columns of words in vocabularies; but it is proportionately more valuable.

This has yet to be done in any general way for the native tongues of America, and what I here present may be considered as merely clearing the road for some later investigator, well equipped from the arsenal of the higher linguistics.

The task—no light one—which such an investigator would have, would be, first, to ascertain what structural traits form the ground-plan or plans (if there are more than one) of the languages of the New World. Upon this ground-plan he would find very different edifices have been erected, which, nevertheless, can be classified into groups, each group marked by traits common to every member of it. These traits and groups he must carefully define. Then would come the separate question as to whether this community of traits has a genetic explanation or not. If the decision were affirmative, we might expect conclusions that would carry us much further than etymological com-

* “Diese thatsachen scheinen darauf hinzudeuten, dass jeder grössere in sich zusammenhängende ländercomplex nur einen oder doch nur ganz wenige sprachgrundtypen herausbildet, so eigenartig, dass selten eine sprache ganz aus dem allgemeinen rahmen heraustritt.” Dr. Heinrich Winkler, *Uralaltaische Völker und Sprachen*, s. 147 (Berlin, 1884).

parisons, and will form a truly scientific basis for the classification of American nations.

Acting merely as a pioneer to this vast scheme, I shall confine myself to the examination of two closely-related traits, said by some to be common to the ground-plan of all American tongues, while by others they are dropped from consideration altogether, or are asserted to be absent in many instances. These traits are Polysynthesis and Incorporation.

I shall first sketch the history of these linguistic doctrines; next explain their nature; and then proceed to examine in detail several groups of tongues of this continent in which they are said not to appear. If I succeed in showing that when correctly understood, one or the other, or both of them, are really present in these tongues, then I shall have taken a step towards defining the "ground-plan" which I have referred to. As I shall show that they are both expressions of the same psychological motive, if either is present in a tongue it will make for my position, and the propriety of discussing them together will be obvious.

I would note at the outset that there are a few cautions which one must observe in the search for structural peculiarities in general, and especially of these.

Thus, it will become obvious to the student of the subject that those American languages which have been lauded for their simplicity are quite sure to be those of which we know very little! The Bri-Bri, the Mutsun, Chibcha, and the Othomi, are examples. Just in proportion as our means of studying them increase, their complexity becomes apparent. The little we know about a tongue is often the safe refuge of those who claim for it an exceptional character.

There is good reason to believe that such apparent simplicity arises from the slight knowledge of the tongues possessed by the whites, to whom we are indebted for our information about them. The trading jargons are always extremely simple, and even the most complex native language readily lends itself to the formation

of a lingo as simple as "pigeon English." I have illustrated this in a recent work by a specimen of the Lenape (Algonkin) language, as in use by the settlers on the Delaware river in the seventeenth century. We know that an early missionary translated a catechism and preached sermons in this jargon. No doubt he thought he was using pure Lenape, and had that dialect shared the fate of so many others, and become extinct at an early date, we should at this day be obliged to accept Campanius' works as authentic examples of it, and should thus derive an entirely erroneous notion of its character.* I urge, therefore, that we should be extremely cautious about pronouncing on the structure of a language unless we have specimens of *native* composition—texts of *aboriginal* literature.

Even here we are not on perfectly safe ground, for there can be no doubt but that many native tongues have materially changed since their speakers have been brought more or less directly into contact with the whites.

On this point, the Rev. John Kilbuck, a very intelligent native Delaware Indian, writes me that most of his people speak Lenape only, but that they have come "to *think* like white men," and that the structure of the language is materially different from what it was formerly. This difference, as explained to me, is clearly that it is becoming more analytic, and is losing the flexibility, the power of polysynthesis, which it formerly possessed to a striking degree.

As I shall show later, Dr. Amaro Cavalcanti says the same of

* See *The Lenape and their Legends*. By D. G. Brinton, pp. 74-5. (No. v. of Brinton's "Library of Aboriginal American Literature.") The Lenape, as presented in Campanius' *Catechism*, offers no signs of incorporation, although it is really a markedly incorporative tongue; and polysynthesis does not appear, although it was on this very dialect that Duponceau chiefly founded his theories! The pretended oration by a native chief which Campanius gives in the original in his *History of New Sweden* is in this same ungrammatical jargon. His works should be a standing warning to students of American languages to be extremely solicitous about their authorities. Campanius lived seven years among the Lenape and studied their language zealously. Even Zeisberger, who lived sixty years among them, does not appear to have recognized the significance of the vowel changes in the verbs, the use of the obviatives, and such like delicate points of their syntax.

the Tupi; and the modern Maya, as it appears in the voluminous religious writings of Father Joaquin Ruz, is pronounced by so excellent a judge as Señor Pio Perez (author of the *Maya Dictionary*) and others to be almost a different tongue from the real spoken Maya of the natives themselves.*

The generalization that American languages constitute in certain essential structural features an independent group of tongues was first propounded in the second decade of this century by Mr. Peter Stephen Duponceau, at one time President of the American Philosophical Society, and his statements to this effect first saw the light in the publications of that society. He did not, indeed, fully analyze these features, and from this deficiency in comprehending them, was led to retract their application in certain examples (especially the Othomi) in which I shall endeavor to show they are actually present. He named, indeed, only one of them, to wit, *polysynthesis*, although it is evident that he perceived the second and equally important process, now known to linguists by the term *incorporation*.

As even quite prominent authorities have seriously misunderstood these processes, and in some instances have done grave injustice to their discoverer, I shall give an outline of their history.

Mr. Duponceau first developed his theory of the structure of American languages in his correspondence with the Rev. Mr. Heckewelder, in the summer of 1816. Referring to the forms of the Delaware verb as set forth by Zeisberger in his *Grammar* of that tongue, he observes: "I am inclined to believe that these

* Crescencio Carrillo writes in his *Disertacion sobre la Historia de la Lengua Maya*, sec. xvii, "El estilo del P. Ruz, como escritor maya, no ha sido de buena y general aceptacion en el país: hásele censurado por falta de claridad, y de que ha forzado mucho y de una manera extraña el giro y carácter propio y genuino de la lengua yucateca." This was not through ignorance, for Father Ruz was thoroughly conversant with the Maya; but he wished to force it into accordance with the rules and structure of European tongues—a not uncommon tendency of missionary writers, and one quite as much to be watched for by the student of American languages as the simple ignorance of such authors as Campanius.

forms are peculiar to this part of the world, and that they do not exist in the languages of the old hemisphere." To express this peculiarity, he first employed the adjective *syntactic*, but later preferred *polysynthetic*.*

In his "Report on the General Character and Forms of American Languages," in 1819, he explained his views at greater length, and then first distinguishes, though not with desirable lucidity, between the two varieties of synthetic construction, the one (incorporation) applicable to verbal forms of expression, the other (polysynthesis) to nominal expressions. His words are—

"A *polysynthetic* or *syntactic* construction of language is that in which the greatest number of ideas are comprised in the least number of words. This is done principally in two ways. 1. By a mode of compounding locutions which is not confined to joining two words together, as in Greek, or varying the inflection or termination of a radical word as in most European languages, but by interweaving together the most significant sounds or syllables of each simple word, so as to form a compound that will awaken in the mind at once all the ideas singly expressed by the words from which they are taken. 2. By an analogous combination [of] the various parts of speech, particularly by means of the verb, so that its various forms and inflections will express not only the principal action, but the greatest possible number of the moral ideas and physical objects connected with it, and will combine itself to the greatest extent with those conceptions which are the subject of other parts of speech, and in other languages require to be expressed by separate and distinct words. Such I take to be the general character of the Indian languages."†

* *Correspondence between the Rev. John Heckewelder and Peter S. Duponceau, Esq.* Letters viii, xvi, and xxiii.

† *Report of the Corresponding Secretary to the Committee, of his progress in the Investigation committed to him of the General Character and Forms of the Languages of the American Indians.* Read 12th Jan., 1819, in the *Transactions of the Historical and Literary Committee of the American Philosophical Society.* Vol. i, 1819, pp. xxx, xxxi.

In his thesis, which received the prize of the Institute of France, in 1835, he was less explicit in his statements, defining the distinguishing trait of the American languages to be "the formation of words, not only by prefixes and suffixes, but by the intercalation, not merely of syllables, but of significant simple sounds, by which they can multiply words indefinitely."*

It should be distinctly stated on the part of Mr. Duponceau, that he at no time claimed this as a peculiarity universal to American languages. His mind was of altogether too scientific a cast to venture such a rash generalization. He guards himself repeatedly and with care against being so understood, and reiterates that his opinion must not be held to extend beyond the tongues he had studied, although he was inclined to believe that all would be found to reveal these characteristics.†

The incorporative plan—*das Einverleibungssystem*—of American languages attracted early the attention of Wilhelm von Humboldt, and in his monumental treatise, *Ueber die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts*, he explains, illustrates, and analyses it at considerable length. In a previous essay I have dwelt in detail on Humboldt's theory of the psychology of the incorporative system, and shall here confine myself to his objective description of it.‡

Its purpose he defines to be, "to impress the unity of the sentence on the understanding by treating it, not as a whole composed of various words, but as one word."§

A perfect type of incorporation will group all the elements of the sentence in and around the verbal, as this alone is the bond of union between the several ideas. The designation of time and manner, that is, the tense and mode signs, will include both

* *Mémoire sur le Système Grammatical des Langues de quelques Nations Indiennes de l'Amérique du Nord*, p. 247 (Paris, 1836).

† *Ibid*, pp. 67, 436.

‡ *The Philosophic Grammar of American Languages as set forth by Wilhelm von Humboldt*. By Daniel G. Brinton, pp. 24-27 (Philadelphia, 1885).

§ *Ueber die Verschiedenheit des Menschlichen Sprachbaues*, etc., s. 166.

the object and subject of the verb, thus subordinating them to the notion of action. It is "an indispensable basis" of this system that there should be a difference in the form of words when incorporated and when not. This applies in a measure to nouns and verbals, but especially to pronouns, and Humboldt names it as "the characteristic tendency" of American languages, and one directly drawn from their incorporative plan, that the personal pronouns, both subjective and objective, used in connection with the verbs, are of a different form from the independent personal pronouns, either greatly abbreviated or from wholly different roots. Outside of the verbal thus formed as the central point of the sentence, there is no syntax, no inflections, no declension of nouns or adjectives.*

Humboldt was far from saying that the incorporative system was exclusively seen in American languages, any more than that of isolation in Chinese, or flexion in Aryan speech. On the contrary, he distinctly states that every language he had examined shows traces of all three plans; but the preponderance of one plan over the other is so marked and so distinctive that they afford us the best means known for the morphological classification of languages, especially as these traits arise from psychological operations widely diverse and of no small influence on the development of the intellect.†

Dr. Francis Lieber, in an essay on "The Plan of Thought in American Languages,"‡ objected to the terms *polysynthesis* and *incorporation* that "they begin at the wrong end; for these names indicate that that which has been separated is put together, as if man began with analysis, whereas he ends with it." He therefore proposed the noun *holophrasis* with its adjective *holophras-*

* See *Ueber die Verschiedenheit*, etc., pp. 170-173, 325-6, etc.

† *Ibid*, p. 167. All references are to the edition of 1848. For a full discussion of Wilhelm von Humboldt's views on this and allied topics see the work above referred to, *The Philosophic Grammar of American Languages as set forth by Wilhelm von Humboldt; with the Translation of an unpublished Memoir by him on the American Verbs* (Philadelphia, 1885).

‡ Published in H. R. Schoolcraft's *History and Statistics of the Indian Tribes of the United States*. Vol. ii, pp. 346-349 (Washington, 1853).

tic, not as a substitute for the terms he criticized, but to express the meaning or purpose of these processes, which is, to convey the whole of a sentence or proposition in one word. Polysynthesis, he explains, indicates a purely etymological process, holophrasis "refers to the meaning of the word considered in a philosophical point of view."

If we regard incorporation and polysynthesis as structural processes of language aiming to accomplish a certain theoretical form of speech, then it will be convenient to have this word holophrasis to designate this theoretical form, which is, in short, the expression of the whole proposition in a single word.

The eminent linguist, Professor H. Steinthal, has developed the theory of incorporation more fully than any other writer. He expresses himself without reserve of the opinion that all American languages are constructed on this same plan, more or less developed.

I need not make long quotations from a work so well-known as his *Charakteristik der hauptsächlichsten Typen des Sprachbaues*, one section of which, about thirty pages in length, is devoted to a searching and admirable presentation of the characteristics of the incorporative plan as shown in American languages. But I may give with brevity, what he regards as the most striking features of this plan. These are especially three:—

1. The construction of words by a mixed system of derivation and new formation.
2. The objective relation is treated as a species of possession; and
3. The possessive relation is regarded as the leading and substantial one, and controls the form of expression.

The first of these corresponds to what I should call *polysynthesis*; the others to *incorporation* in the limited sense of the term.

Some special studies on this subject have been published by M. Lucien Adam, and he claims for them that they have refuted

and overturned the thesis of Duponceau, Humboldt, and Steinthal, to the effect that there is a process called *incorporative* or *polysynthetic* which can be traced in all American languages, and though not in all points confined to them, may fairly and profitably be taken as characteristic of them, and indicative of the psychological processes which underlie them. This opinion M. Adam speaks of as a "stereotyped phrase which is absolutely false."*

So rude an iconoclasm as this must attract our careful consideration. Let us ask what M. Adam understands by the terms *polysynthesis* and *incorporation*. To our surprise, we shall find that in two works published in the same year, he advances definitions by no means identical. Thus, in his "Examination of Sixteen American Languages," he says, "*polysynthesis* consists essentially in the affixing of subordinate personal pronouns to the noun, the postposition and the verb." In his "Study of Six Languages," he writes: "By *polysynthesis* I understand the expression in one word of the relations of cause and effect, or of subject and object."†

Certainly these two definitions are not convertible, and we are almost constrained to suspect that the writer who gives them was not clear in his own mind as to the nature of the process. At any rate, they differ widely from the plan or method set forth by Humboldt and Steinthal as characteristic of American languages. M. Adam in showing that polysynthesis in his understanding of the term is not confined to or characteristic of American tongues missed the point, and fell into an *ignoratio elenchi*.

* "Je suis donc autorisé à conclure qu'il faut tenir pour absolument fausse cette proposition devenue fautive d'y avoir regardé de près, une sorte de cliché: que si les langues Américaines diffèrent entre elles par la lexique, elles possèdent néanmoins en commun une seule et même grammaire." *Examen grammatical comparé de seize langues Américaines*, in the *Compte-rendu* of the Congrès international des Américanistes, 1877, Tome ii, p. 242. As no one ever maintained the unity of American grammar outside of the *Einverleibungssystem*, it must be to this theory only that M. Adam alludes.

† *Etudes sur Six Langues Américaines*, p. 3 (Paris, 1878); and compare his *Examen Grammatical* above quoted, p. 24, 243.

Equally narrow is his definition of incorporation. He writes, "When the object is intercalated between the subject and the verbal theme, there is *incorporation*." If this is to be understood as an explanation of the German expression, *Einverleibung*, then it has been pared down until nothing but the stem is left.

As to Dr. Lieber's suggestion of *holophrastic* as an adjective expressing the plan of thought at the basis of polysynthesis and incorporation, M. Adam summarily dismisses it as "a pedantic succedaneum" to our linguistic vocabulary.

I cannot acknowledge that the propositions so carefully worked up by Humboldt and Steinthal have been refuted by M. Adam; I must say, indeed, that the jejune significance he attaches to the incorporative process seems to me to show that he did not grasp it either as a structural motive in language, or as a wide reaching psychological process.

Professor Friedrich Müller, whose studies of American languages are among the most extended and profitable of the present time, has not given to this peculiar feature the attention which we might reasonably expect. Indeed, there appears in the standard treatise on the science of language which he is now engaged in publishing almost the same vagueness as to the nature of incorporation which I have pointed out in the writings of M. Adam. Thus, on one page he defines incorporating languages as those "which do away with the distinction between the word and the sentence;" while on another page he explains incorporation as "the including of the object within the body of the verb."* He calls it "a peculiarity of most American languages, but not of all." That the structural process of incorporation is by no means exhausted by the reception of the object within the body of the verb, even that this is not requisite to incorporation, I shall endeavor to show.

**Gründriss der Sprachwissenschaft*. Von Dr. Friedrich Müller. Compare Bd. i., s. 68, und Bd. ii, s. 182.

Finally, I may close this brief review of the history of these doctrines with a reference to the fact that neither of them appears anywhere mentioned in the official "Introduction to the Study of Indian Languages" issued by the United States Bureau of Ethnology! How the author of that work, Major J. W. Powell, Director of the Bureau, could have written a treatise on the study of American languages, and have not a word to say about these doctrines, the most salient and characteristic features of the group, is to me as inexplicable as it is extraordinary. He certainly could not have supposed that Duponceau's theory was completely dead and laid to rest, for Steinthal, the most eminent philosophic linguist of the age, still teaches in Berlin, and teaches what I have already quoted from him about these traits. What is more, Major Powell does not even refer to this structural plan, nor include it in what he terms the "grammatic processes" which he explains.* This is indeed the play of "Hamlet" with the part of Hamlet omitted!

I believe that for the scientific study of language, and especially of American languages, it will be profitable to restore and clearly to differentiate the distinction between polysynthesis and incorporation, dimly perceived by Duponceau and expressed by him in the words already quoted. With these may be retained the neologism of Lieber, *holophrasis*, and the three defined as follows:

Polysynthesis is a method of word-building, applicable either to nominals or verbals, which not only employs juxtaposition with aphaeresis, syncope, apocope, etc., but also words, forms of words and significant phonetic elements which have no separate existence apart from such compounds. This latter peculiarity marks it off altogether from the processes of agglutination and collocation.

Incorporation, *Einverleibung*, is a structural process confined

**Introduction to the Study of Indian Languages*. By J. W. Powell, p. 55, Second edition. Washington, 1880.

to verbals, by which the nominal or pronominal elements of the proposition are subordinated to the verbal elements, either in form or position; in the former case having no independent existence in the language in the form required by the verb, and in the latter case being included within the specific verbal signs of tense and mood. In a fully incorporative language the verbal exhausts the syntax of the grammar, all other parts of speech remaining in isolation and without structural connection.

Holophrasis does not refer to structural peculiarities of language, but to the psychological impulse which lies at the root of polysynthesis and incorporation. It is the same in both instances—the effort to express the whole proposition in one word. This in turn is instigated by the stronger stimulus which the imagination receives from an idea conveyed in one word rather than in many.

These words, when understood, are good enough, without inventing others. Professor Julien Vinson would like to substitute “syncopated composition” for polysynthesis.* But the process is not simply syncopated composition; and if it were, why substitute two words for one?

A few illustrations will aid in impressing these definitions on the mind.

As *polysynthetic* elements, we have the inseparable possessive pronouns which in many languages are attached to the names of the parts of the human body and to the words for near relatives; also the so-called “generic formatives,” particles which are prefixed, suffixed, or inserted to indicate to what class or material objects belong; also the “numeral terminations” affixed to the ordinal numbers to indicate the nature of the objects counted; the negative, diminutive and amplificative particles which convey certain conceptions of a general character, and so on. These are

* “Le polysynthétisme, ou, pour employer une meilleure expression: la *composition syncopée*.” M. Julien Vinson in the *Compte-Rendu du Congrès International des Américanistes*, 1883, p. 365.

constantly used in word-building, but are generally not words themselves, having no independent status in the language. They may be single letters, or even merely vowel-changes and consonantal substitutions; but they have well defined significance.

In *incorporation* the object may be united to the verbal theme either as a prefix, suffix or infix; or, as in Nahuatl, etc., a pronominal representative of it may be thus attached to the verb, while the object itself is placed in isolated apposition.

The subject is usually a pronoun inseparably connected, or at least included within the tense sign; to this the nominal subject stands in apposition. Both subjective and objective pronouns are apt to have a different form from either the independent personals or possessives, and this difference of form may be accepted as *a priori* evidence of the incorporative plan of structure—though there are other possible origins for it. The tense and mode signs are generally separable, and, especially in the compound tenses, are seen to apply not only to the verb itself, but to the whole scope of its action, the tense sign for instance preceding the subject.

Some further observations will set these peculiarities in a yet clearer light.

Although in polysynthesis we speak of prefixes, suffixes, and juxtaposition, we are not to understand these terms as the same as in connection with the Aryan or with the agglutinative languages. In polysynthetic tongues they are not intended to form words, but sentences; not to express an idea, but a proposition. This is a fundamental logical distinction between the two classes of languages.

With certain prefixes, as those indicating possession, the form of the word itself alters, as in Mexican, *amatl*, book, *no*, mine, but *namauh*, my book. In a similar manner suffixes or postpositions affect the form of the words to which they are added.

As the holophrastic method makes no provisions for the syntax of the sentence outside of the expression of action (*i. e.*, the

verbal and what it embraces), nouns and adjectives are not declined. The "cases" which appear in many grammars of American languages are usually indications of space or direction, or of possession, and not case-endings in the sense of Aryan grammar.

A further consequence of the same method is the absence of true relative pronouns, of copulative conjunctions, and generally of the machinery of dependent clauses. The devices to introduce subordinate propositions I have referred to in the previous essay already mentioned.

As the effort to speak in sentences rather than in words entails constant variation in these word-sentences, there arise both an enormous increase in verbal forms and a multiplication of expressions for ideas closely allied. This is the cause of the apparently endless conjugations of many such tongues, and also of the exuberance of their vocabularies in words of closely similar signification. It is an ancient error—which, however, I find repeated in the official "Introduction to the Study of Indian Languages" issued by our Bureau of Ethnology—that the primitive condition of languages is one "where few ideas are expressed by few words." On the contrary, languages structurally at the bottom of the scale have an enormous and useless excess of words. The savage tribes of the plains will call a color by three or four different words as it appears on different objects. The Eskimo has about twenty words for fishing, depending on the nature of the fish pursued. All this arises from the "holophrastic" plan of thought.

It will be seen from these explanations that the definition of Incorporation as given by M. Lucien Adam (quoted above) is entirely erroneous, and that of Professor Müller is visibly inadequate. The former reduces it to a mere matter of position or placement; the latter either does not distinguish it from polysynthesis, or limits it to only one of its several expressions.

In fact, Incorporation may take place with any one of the six

possible modifications of the grammatical formula, "subject + verb + object." It is quite indifferent to its theory which of these comes first, which last; although the most usual formula is either,

subject + object + verb, or
object + subject + verb;

the verb being understood to be the verbal theme only—not its tense and mode signs. Where either of the above arrangements occurs, we may consider it to be an indication of the incorporative tendency; but as mere position is insufficient evidence, Incorporation may be present in other arrangements of the elements of the proposition.

As a fair example of polysynthesis in nouns, we may select the word for "cross" in the Cree. The Indians render it by "praying-stick" or "holy wood," and their word for "our praying-sticks" (crosses) is:

N't'ayamihewâttikuminânak.

This is analyzed as follows:

n't', possessive pronoun, $\frac{1}{3}$ person plural.

ayami, something relating to religion.

he, indicative termination of the foregoing.

w, a connective.

âttik, suffix indicating wooden or of wood.

u, a connective.

m, sign of possession.

i, a connective.

nân, termination of $\frac{1}{3}$ person plural.

ak, termination of animate plural (the cross is spoken of as animate by a figure of speech).

Not a single one of the above elements can be employed as an independent word. They are all only the raw material to weave into and make up words.

As a characteristic specimen of incorporation we may select this Nahuatl word-sentence:

onictemacac,

I have given something to somebody ;

which is analyzed as follows :

o, augment of the preterit, a tense sign.

ni, pronoun, subject, 1st person.

c, "semi-pronoun," object, 3d person.

te, "inanimate semi-pronoun," object, 3d person.

maca, theme of the verb, "to give."

c, suffix of the preterit, a tense sign.

Here it will be observed that between the tense-signs, which are logically the essential limitations of the action, are included both the agent and the near and remote objects of the action.

Or we may take the Cakchiquel

xbina camizah,

Thou wilt not kill me.

Composed of

x, sign of the future tense.

b, for *ba*, negative.

in, for *quin*, pronoun, 1st person, object.

a, pronoun, 2d person, subject.

camizah, verbal theme, "to kill."

Here the object does not come between verb and subject, but precedes the latter ; but it is a true specimen of incorporation, as is proved by the prefixed tense sign.

In the modifications of meaning they undergo, American verbal themes may be divided into two great classes, either as they express these modifications (1) by suffixes to an unchanging radical, or (2) by internal changes of their radical.

The last mentioned are most characteristic of synthetic tongues. In all pure dialects of the Algonkin the vowel of the verbal root undergoes a peculiar change called "flattening" when the proposition passes from the "positive" to the "suppositive"

mood.* The same principle is strikingly illustrated in the Choctaw language, as the following example will show :†

takchi, to tie (active, definite).

takchi, to be tying (active, distinctive).

tak'chi, to tie (active, emphatic).

taiakchi, to tie tightly (active, intensive).

tahakchi, to keep tying (active, frequentative).

tahkchi, to tie at once (active immediate).

tullakchi, to be tied (passive definite).

tallakchi, to be the one tied (passive distinctive), etc., etc.

This example is, however, left far behind by the Qquichua of Peru, which by a series of so-called "verbal particles" affixed to the verbal theme confers an almost endless variety of modification on its verbs. Thus Anchorena in his Grammar gives the forms and shades of meaning of 675 modifications of the verb *munay*, to love.‡

These verbal particles are not other words, as adverbs, etc., qualifying the meaning of the verb and merely added to it, but have no independent existence in the language. Von Tschudi, whose admirable analysis of this interesting tongue cannot be too highly praised, explains them as "verbal roots which never reached independent development, or fragments handed down from some earlier epoch of the evolution of the language."§ They are therefore true synthetic elements in the sense of Duponceau's definition, and not at all examples of collocation or juxtaposition.

In contrast to this we may take the Maya-Quiche dialects, where there are only slight traces of these internal changes, most of the modifications being effected by affixes. Thus Francisco

*This obscure feature in Algonkin Grammar has not yet been satisfactorily explained. Compare Baraga, *Grammar of the Otchipwe Language*, p. 116 (Montreal, 1878), and A. Lacombe, *Grammaire de la Langue des Cris*, p. 155 (Montreal, 1874).

†See *Grammar of the Choctaw Languages*. By the Rev. Cyrus Byington. Edited by D. G. Brinton, pp. 35, 36 (Philadelphia, 1870).

‡ *Gramática Quechua, ó del Idioma del Imperio de los Incas*. Por el Dr. José Dionisio Anchorena, pp. 163-177 (Lima, 1874).

§ *Organismus der Khetsua-Sprache*. Von J. J. von Tschudi, p. 368 (Leipzig, 1884).

Ximenez in his *Quiche Grammar* gives twenty-four variations of the theme *bak*, bored, all by suffixes, as :*

bak, first passive.

bakatuh, second passive.

bakou, first absolute.

bakon, second absolute.

bake, first neuter.

baker, second neuter, etc., etc.

While the genius of American languages is such that they permit and many of them favor the formation of long compounds which express the whole of a sentence in one word, this is by no means necessary. Most of the examples of words of ten, twenty or more syllables are not genuine native words, but novelties manufactured by the missionaries. In ordinary intercourse such compounds are not in use, and the speech is comparatively simple.

Of two of the most synthetic languages, the Algonkin and the Nahuatl, we have express testimony from experts that they can be employed in simple or compound forms, as the speaker prefers. The Abbé Lacombe observes that in Cree "sometimes one can employ very long words to express a whole phrase, although the same ideas can be easily rendered by periphrasis."[†] In the syllabus of the lectures on the Nahuatl by Prof. Agustin de la Rosa of the University of Guadalajara I note that he explains when the Nahuatl is to be employed in a synthetic, and when in an analytic form.[‡]

I shall now proceed to examine those American tongues which

* *Gramatica de la Lengua Quiche*. Ed. Brasseur de Bourbourg, p. 8 (Paris, 1862).

† "Ces exemples font comprendre combien quelquefois on peut rendre des mots très longs, pour exprimer toute une phrase, quoiqu' aussi on puisse facilement rendre les mêmes idées par des périphrases." Lacombe, *Grammaire de la Langue des Cris*, p. 11 (Montreal, 1874).

‡ "Se explicara la razon filosófica de los dos modos de usar las palabras en Mexicano, uno componiendo de varias palabras uno solo, y otro dejandolas separadas y enlazandolas solo por el regimen." From the programme of Prof. A. de la Rosa's course in 1870. It is greatly to be regretted that the works of this author on the Nahuatl, though recent, are so scarce as to be unobtainable.

have been authoritatively declared to be exceptions to the general rules of American grammar, as being devoid of the incorporative and polysynthetic character.

THE OTHOMI.*

As I have said, the Othomi was the stumbling block of Mr. Duponceau and led him to abandon his theory of polysynthesis as a characteristic of American tongues. Although in his earlier writings he expressly names it as one of the illustrations supporting his theory, later in life the information he derived from Señor Emmanuel Naxera led him to regard it as an isolating and monosyllabic language, quite on a par with the Chinese. He expressed this change of view in the frankest manner, and since that time writers have spoken of the Othomi as a marked exception in structure to the general rules of synthesis in American tongues. This continues to be the case even in the latest writings, as, for instance, in the recently published *Anthropologie du Mexique*, of Dr. Hamy.†

Let us examine the grounds of this opinion.

The Othomis are an ancient and extended family who from the remotest traditional epochs occupied the central valleys and mountains of Mexico north of the Aztecs and Tezcucans. Their

*The original authorities I have consulted on the Othomi are:

Reglas de Orthographia, Diccionario, y Arte del Idioma Othomi. By Luis de Neve y Molina (Mexico, 1767).

De Lingua Othomitorum Dissertatio. By Emmanuel Naxera (Philadelphia, 1835).

Cateismo en Lengua Otomi. By Francisco Perez (Mexico, 1834).

†He speaks of the Othomi in these terms:—"Une langue aux allures toutes spéciales, fondamentalement distincte de toutes les langues qui se parlent aujourd' hui sur le continent américain." *Mission Scientifique au Mexique*, Pt. i. *Anthropologie*, p. 32 (Paris, 1884). This is the precise opinion, strongly expressed, that it is my object to controvert. Many other writers have maintained it. Thus Count Piccolomini in the *Prolegomena* to his version of Neve's Othomi Grammar says: "La loro lingua che con nessuna altra del mondo conosciuto ha la menoma analogia, è semplice. * * * La formazione dei loro verbi, nomi, ed altri derivati ha molta semplicità," etc. *Grammatica della Lingua Otomi*. p. 3 (Roma, 1841). This writer also offers an illustration of how imperfectly Duponceau's theory of polysynthesis has been understood. Not only does Piccolomini deny it for the Otomi, but he denies that it is anything more than merely running several words together with some phonetic syncopation. See the *Annotationi* at the close of his Othomi Grammar.

language, called by themselves *nhiân hiû*, the fixed or current speech* (*nhiân*, speech, *hiû*, stable, fixed), presents extraordinary phonetic difficulties on account of its nasals, gutturals and explosives. M. A. Pinart has informed me that of the many American tongues which he has studied from the lips of the natives, it is far the most difficult to catch.

It is one of a group of related dialects which may be arranged as follows :

- { The Othomi.
- { The Mazahua.
- { The Pame and its dialects.
- { The Meco or Jonaz.

It was the opinion of M. Charencey, that another member of this group was the Pirinda or Matlazinca; a position combatted by Señor Pimentel, who acknowledges some common property in words, but considers them merely borrowed.†

At the outset, it is well to express a caution about accepting without reserve Naxera's opinions on the tongue. No doubt he had practical familiarity with it in its modern and rather corrupt form, but his treatise was largely written to prove that it was not only structurally similar but lexicographically related to the Chinese:—and we all know how such a prepossession obscures the judgment. Thus, part of his object was to prove that every syllable of the polysyllabic words had an independent meaning which it always retained in the compound. It is easy to think out deceptive etymologies of this kind, especially in languages where there are many monosyllables. Thus the participle *rowing* might plausibly be compounded of the two monosyllables *row*, and *wing*, as the oarmen are seated in a row, and the blade of the oar resembles a wing.

*This is the orthography of Neve. The terminal vowels are both nasals; *nhiân* is from the radical *hiâ* to breathe, breath.

†See the "Comparacion del Othomi con el Mazahua y el Pirinda," in the *Cuadro Descriptivo y Comparativo de las Lenguas Indigenas de México*, por Francisco Pimentel. Tomo iii, pp. 431-445 (Mexico, 1875).

Bayard Taylor's humorous derivation of *restaurant*—*res, taurus*, "bully thing"—is of similar character. That Naxera was led into this false route by his anxiety to prove the Othomi monosyllabic is evident, for example, from his treatment of the verbal terminations *tza*, *tze*, *tzi*; he makes them independent words, characterizing the imperative, and meaning to happen, to effect, and to carry; whereas Neve treats them as mere terminations, which is shown to be correct by the fact that they are retained with syncope and elision in other moods as well as in the imperative itself.* Thus

Da phāx Oghā:

Thee aid God.

Where *phāx* is an abbreviation of *phātzi*.

Naxera made the statement that the Mazahua is monosyllabic, an error in which his copyists have obediently followed him; but Pimentel pointedly contradicts this assertion and shows that it is a mistake, both for the Mazahua and for the Pame and its dialects.†

We may begin our study of the language with an examination of the

TENSE SIGNS IN OTHOMI.

PRESENT TENSE.

- | | |
|------------------|-----------------|
| 1. I wish, | <i>di nee.</i> |
| 2. Thou wishest, | <i>gui nee.</i> |
| 3. He wishes, | <i>y nee.</i> |

PAST AORIST.

- | | |
|-----------------|----------------|
| 1. I wished, | <i>da nee.</i> |
| 2. Thou wished, | <i>ga nee.</i> |
| 3. He wished, | <i>bi nee.</i> |

* Compare Naxera, *Dissertatio*, p. 286, with Neve, *Reglas*, p. 149.

† See Pimentel, *Cuadro Descriptivo*, etc. Tomo iii, pp. 429 and 455.

PERFECT.

- | | |
|----------------------|-----------------|
| 1. I have wished, | <i>xta nee.</i> |
| 2. Thou hast wished, | <i>xca nee.</i> |
| 3. He has wished, | <i>xpi nee.</i> |

PLUPERFECT.

- | | |
|-----------------------|---------------------|
| 1. I had wished, | <i>xta nee hma.</i> |
| 2. Thou hadst wished, | <i>xca nee hma.</i> |
| 3. He had wished, | <i>xpi nee hma.</i> |

FIRST FUTURE.

- | | |
|--------------------|-----------------|
| 1. I shall wish, | <i>ga nee.</i> |
| 2. Thou wilt wish, | <i>gui nee.</i> |
| 3. He will wish, | <i>da nee.</i> |

SECOND FUTURE.

- | | |
|---------------------------|---------------------|
| 1. I shall have wished, | <i>gua xta nee.</i> |
| 2. Thou wilt have wished, | <i>gua xca nee.</i> |
| 3. He will have wished, | <i>gua xpi nee.</i> |

The pronouns here employed are neither the ordinary personals nor possessives (though the Othomi admits of a possessive conjugation), but are verbal pronouns, strictly analogous to those found in various other American languages. Their radicals are :

- I, *d—*.
 Thou, *g—*.
 He, it, *b—*.

In the present, the first and second are prefixed to what is really the simple concrete form of the verb, *y-nee*. In the past tenses the personal signs are variously united with particles denoting past time or the past, as *a*, the end, to finish, *ma* and *hma*, yesterday, and the prefix *x*, which is very noteworthy as being precisely the same in sound and use which we find in the Cakchiquel past and future tenses. It is pronounced *sh* (as in *shove*) and precedes the whole verbal, including subject, object,

and theme; while in the pluperfect, the second sign of past time *hma* is a suffix to the collective expression.

The future third person is given by Neve as *da*, but by Perez as *di*, which latter is apparently from the future particle *ni* given by Neve. In the second future, the distinctive particle *gua* precedes the whole verbal, thus inclosing the subject with the theme in the tense-sign, strictly according to the principles of the incorporative conjugation.

This incorporative character is still more marked in the objective conjugations, or "transitions." The object, indeed, follows the verb, but is not only incorporated with it, but in the compound tense is included within the double tense signs.

Thus, I find in Perez's Catechism,

<i>di</i>	<i>ûn-ba</i>	<i>magetzi</i> ,
He will	give-them	heaven.

In this sentence, *di* is the personal pronoun combined with the future sign; and the verb is *ûn-nî*, to give to another, which is compounded with the personal *ba*, them, drops its final syllable, forming a true synthesis.

In the phrase,

<i>xpi</i>	<i>ûn-ba</i>	<i>hma</i>	<i>magetzi</i> ,
he had	given-them	(had)	heaven,

both subject and object, the latter inclosed in a synthesis with the radical of the theme, the former phonetically altered and coalesced with a tense particle, are included in the double tense-sign, *x-hma*. This is as real an example of incorporation as can be found in any American language.

Ordinary synthesis of words, other than verbs, is by no means rare in Othomi. Simple juxtaposition, which Naxera states to be the rule, is not all universal. Such a statement by him leads us to suspect that he had only that elementary knowledge of the tongue which Neve refers to in a forcible passage in his *Reglas*. He writes;—"A good share of the difficulty of this tongue lies in its custom of syncope; and because the tyros who make use

of it do not syncopate it, their compositions are so rough and lacking in harmony to the ears of the natives that the latter count their talk as no better than that of horse-jockeys, as we would say.”*

The extent of this syncopation is occasionally to such a degree that only a fragment of the original word is retained. As :

The charcoal-vendor, *na māthiá*.

Here *na*, is a demonstrative particle like the Aztec *in*, and *māthiá* is a compound of *pà*, to sell, and *thêhñá*, charcoal.

The expression,

y mahny ogha, he loves God,
is to be analyzed,

y mǎhdì nuny ogha;
he loves him God ;

where we perceive not only synthesis, but the object standing in apposition to the pronoun representing it, which is incorporated with the verb.

So : *yot-gua*, light here ; from *yotti*, to light, *nugua*, here.

These examples from many given in Neve's work seem to me to prove beyond cavil that the Othomi exhibits, when properly spoken, precisely the same theories of incorporation and polysynthesis as the other American languages, although undoubtedly its more monosyllabic character and the extreme complexity of its phonetics do not permit of a development of these peculiarities to the same degree as many.

Nor am I alone in this opinion. It has already been announced by my learned friend, the Count de Charencey, as the result of his comparison of this tongue with the Mazahua and Pirinda. “The Othomi,” he writes, “has all the appearance of a language which was at first incorporative, and which, worn down by attri-

* “Parte de la dificultad de este idioma consiste en la syncopa, pues el no syncopar los principiantes artistas, es causa de que sus periodos y oraciones sean tan ríspidos, y faltos de harmonia, por cuyo motivo los nativos los murmuran, y tienen (como vulgarmente decimos), por quatreros.” *Reglas de Orthographia*, etc., p. 146.

tion and linguistic decay, has at length come to simulate a language of juxtaposition.”*

Some other peculiarities of the language, though not directly bearing on the question, point in the same direction. A certain class of compound verbs are said by Neve to have a possessive declension. Thus, of the two words *puengui*, he draws, and *hiá*, breath, is formed the verb *buehiá*, which is conjugated by using the verb in the indefinite third person and inserting the possessives *ma*, *ni*, *na*, my, thy, his; thus,

ybuemahia, I breathe.

ybuenihia, thou breathest.

ybuenahia, he breathes.†

Literally this would be “it-is-drawing, my-breath,” etc.

In the Mazahua dialects there is a remarkable change in the objective conjugations (transitions) where the whole form of the verb appears to alter. In this language *ti* = I; *ki* or *khe* = thou.

I give, *ti une*.

I give thee, *ti dakke*.

He will give us, *ti yakme*.‡

The last example is not fully explained by my authorities; but it shows the verbal change.

Something like this occurs in the Pame dialects. They reveal a manifest indifference to the integrity of the theme, characteristic of polysynthetic languages. Thus, our only authority on the Pame, Father Juan Guadalupe Soriano, gives the preterit forms of the verb “to aid:”

Ku pait, I aided.

Ki gait, thou aidedest.

Ku mait, he aided.

* “L'Othomi nous a tout l'air d'une langue primitivement incorporante, et qui, parvenu au dernier degré d'usure et délabrement, a fini par prendre les allures d'un dialecte à juxtaposition.” *Mélanges de Philologie et de Paléographie Américaine*. Par le Comte de Charencey, p. 80 (Paris, 1883).

† Neve, *Reglas* etc., pp. 159, 160.

‡ Pimentel, *Cuadro Descriptivo*, Tom. iii, p. 424.

So, of "to burn :"

Knu aum, I burned.

Kuddu du taum, they burned.*

A large number of such changes run through the conjugation. Pimentel calls them phonetic changes, but they are certainly, in some instances, true syntheses.

All these traits of the Othomi and its related dialects serve to place them unquestionably within the general plan of structure of American languages.

The Bri-Bri Language.

The late Mr. William M. Gabb, who was the first to furnish any satisfactory information about it and its allied dialects in Costa Rica, introduces the Bri-Bri language, spoken in the highlands of that State, by quoting the words of Alexander von Humboldt to the effect that "a multiplicity of tenses characterizes the rudest American languages." On this, Mr. Gabb comments: "This certainly does not apply to the Costa Rican family, which is equally remarkable for the simplicity of its inflections.†"

This statement, offered with such confidence, has been accepted and passed on without close examination by several usually careful linguists. Thus Professor Friedrich Müller, in his brief description of the Bri-Bri (taken exclusively from Gabb's work), inserts the observation—"The simple structure of this idiom is sufficient to contradict the theories generally received about American languages."‡ And M. Lucien Adam has lately instanced its verbs as notable examples of inflectional simplicity.§

* Pimentel, *Cuadro Descriptivo*, Tomo iii, p. 462.

† Wm. M. Gabb, *On the Indian Tribes and Languages of Costa Rica*, in the Proceedings of the American Philosophical Society for 1875, p. 532.

‡ "Dessen einfacher Bau die über die Amerikanischen Sprachen im Allgemeinen verbreiteten Theorien zu widerlegen im Stande ist." *Grundriss der Sprachwissenschaft*, ii Band, s. 318 (Wien, 1882).

§ *Le Taensa a-t-il été forgé de toutes Pièces?* Réponse à M. Daniel G. Brinton. Par Lucien Adam, p. 19 (Paris, Maisonneuve et Cie, 1885).

The study of this group of tongues becomes, therefore, of peculiar importance to my present topic.

Since Mr. Gabb published his memoir, some independent material, grammatical as well as lexicographical, has been furnished by the Rt. Rev. B. A. Thiel, Bishop of Costa Rica,* and I have obtained, in addition, several MS. vocabularies and notes on the languages prepared by Prof. P. J. J. Valentini (now of New York City) and others.

The stock is divided into three groups of related dialects, as follows :—

I. The Brunka, Bronka or Boruca, now in Southwestern Costa Rica, but believed by Gabb to have been the earliest of the stock to occupy the soil, and to have been crowded out by later arrivals.

II. The Tiribi and Terraba, principally on the head-waters of the Rio Telorio and south of the mountains.

III. The Bri-Bri and Cabecar on the head-waters of the Rio Tiliri. The Biceitas (Vizeitas) or Cachis, near the mouth of the same stream, are one of the off-shoots of the Bri-Bris; so also are the small tribes at Orosi and Tucurrique, who were removed to those localities by the Spaniards.

The Bri-Bri and Cabecar, although dialects of the same original speech, are not sufficiently alike to be mutually intelligible. The Cabecars occupied the land before the Bri-Bris, but were conquered and are now subject to them. It is probable that their dialect is more archaic.

The Bri-Bri is a language of extreme poverty, and as spoken at present is plainly corrupt. Gabb estimates the total number of words it contains as probably not exceeding fifteen hundred. Some of these, though Gabb thinks not very many, are borrowed from the Spanish; but it is significant, that among them is the pronoun "that," the Spanish *ese*.

* *Apuntes Lexicograficos de las Lenguas y Dialectos de los Indios de Costa-Rica.* Por Bernardo Augusto Thiel, Obispo de Costa-Rica (San José de Costa-Rica, 1882. Imprenta Nacional).

Let us now examine the Bri-Bri verb, said to be so singularly simple. We are at once struck by Mr. Gabb's remark (just after he has been speaking of their unparalleled simplicity) that the inflections he gives "have been verified with as much care as the difficulties of the case would admit." Evidently, then, there were difficulties. What they are become apparent when we attempt to analyze the forms of the eighteen brief paradigms which he gives.

The personal pronouns are

<i>je</i> , I.	<i>sa</i> , we.
<i>be</i> , thou.	<i>ha</i> , you.
<i>ye</i> , he, etc.	<i>ye-pa</i> , they.

These are both nominative and objective, personal and, with the suffix *cha*, possessives.

The tenses are usually, not always, indicated by suffixes to the theme; but these vary, and no rule is given for them, nor is it stated whether the same theme can be used with them all. Thus,

To burn, <i>i-norka</i> .	Present, <i>i-nyor-ket-ke</i> .
To cook, <i>i-lu'</i> .	" <i>i-luk</i> .
To start, <i>i-be-te</i> .	" <i>i-be-te</i> .

Here are three forms for the present, not explained. Are they three conjugations, or do they express three shades of meaning, like the three English presents? I suspect the latter, for under *ikiana*, to want, Gabb remarks that the form *in-etke*, means "he wants you," *i. e.*, is emphatic.

The past aorist has two terminations, one in *-na*, and one in *-e*, about the uses and meaning of which we are left equally in the dark.

The future is utterly inexplicable. Even Prof. Müller, just after his note calling attention to the "great simplicity" of the tongue, is obliged to give up this tense with the observation, "the structural laws regulating the formation of the future are still in obscurity!" Was it not somewhat premature to dwell on

the impliscity of a tongue whose simplest tenses he acknowledges himself unable to analyze?

The futures of some verbs will reveal the difficulties of this tense :—

To burn, <i>i-nyor-ka</i> ;	future, <i>i-nyor-wane-ka</i> .
To cook, <i>i-lu'</i> ;	“ <i>i-lu'</i> .
To start, <i>i-bete'</i> ;	“ <i>i-bete</i> .
To want, <i>i-ki-ana</i> ;	“ <i>i-kie</i> .
To count, <i>ishtaung</i> ;	“ <i>mia shta'we</i> .

In the last example *mia*, is the future of the verb, *imia*, to go, and is used as an auxiliary.

The explanation I have to suggest for these varying forms is, either that they represent in fact that very “multiplicity of tense-formations” which Humboldt alluded to, and which were too subtle to be apprehended by Mr. Gabb within the time he devoted to the study of the language ; or that they are in modern Bri-Bri, which I have shown is noticeably corrupted, survivals of these formations, but are now largely disregarded by the natives themselves.

Signs of the incorporative plan are not wanting in the tongue. Thus in the objective conjugation not only is the object placed between subject and verb, but the latter may undergo visible synthetic changes. Thus :

Je be sueng.

I thee see.

Ke je be wai su-na.

Not I thee (?) see-did.

In the latter sentence *na* is the sign of the past aorist, and the verb in synthesis with it drops its last syllable. The *wai* Gabb could not explain. It will be noticed that the negative precedes the whole verbal form, thus indicating that it is treated as a collective idea (holophrastically).

Prepositions always appear as suffixes to nouns, which, in com-

position, may suffer elision. This is strictly similar to the Nahuatl and other synthetic tongues.

Other examples of developed synthesis are not uncommon, as away, *imibak*, from *imia* to go, *jebak*, already.

very hot, *palina*, from *ba + ilinia*.

The opinion that the Bri-Bri is at present a considerably corrupted and worn-down dialect of a group of originally highly synthetic tongues is borne out by an examination of the scanty materials we have of its nearest relations.

Thus in the Terraba we find the same superfluous richness of pronominal forms which occurs in many South American tongues, one indicating that the person is sitting, another that he is standing, a third that he is walking.*

The Brunca has several distinct forms in the present tense:

I eat, *cha adeh*, and *atqui chan* (*atqui* = I).

Although Bishop Thiel supplies a number of verbal forms from this dialect, the plan of their construction is not obvious. This is seen from a comparison of the present and perfect tenses in various words. The pronouns are $\frac{1}{3} \left\{ \begin{array}{l} \textit{atqui}, \text{ I.} \\ \textit{ique}, \text{ he.} \end{array} \right.$

For instance :—

BRUNKA VERBAL FORMS.

To kill (radical, *ai*).

Present, I kill, *cha atqui i aíra*.

Perfect, he has killed, *iang i aíc*.

To die (radical, *cojt*).

Present, I die, *cójo drah*.

Perfect, he has died, *cojt crah*.

To hear (radical, *dój*).

Present, I hear, *aari dój ograph*.

Perfect, I have heard, *aqui dój crah*.

*Gabb, ubi suprá, p. 539.

To forget.

Present, I forget, *atqui chita uringera*.

Perfect, I have forgotten, *ochita uringea*.

These examples are sufficient to show that the Brunka conjugations are neither regular nor simple, and such is the emphatic statement of Bishop Thiel, both of it and all these allied dialects. In his introduction he states that he is not yet ready to offer a grammar of these tongues, though well supplied with lexicographical materials, and that "*their verbs are especially difficult*."*

The Cabecar dialect, in which he gives several native funeral poems, without translations, is apparently more complicated than the Bri-Bri. The words of the songs are long and seem much syncopated.

The Tupi-Guarani Dialects.

Several writers of the highest position have asserted that these dialects, spoken over so large a portion of the territory of Brazil, are neither polysynthetic nor incorporative. Thus the late Prof. Charles F. Hartt in his "Notes on the Lingoa Geral or Modern Tupi," expressed himself:—"Unlike the North American Indian tongues, the languages of the Tupi-Guarani family are not polysynthetic in structure."† With scarcely less positiveness Professor Friedrich Müller writes:—"The objective conjugation of the Tupi-Guarani does not show the incorporation usually seen in American languages, but rather a mere collocation."‡

It is, I acknowledge, somewhat hazardous to venture an opinion contrary to such excellent authorities. But I must say, that while, no doubt, the Tupi in its structure differs widely from the

*"Especial dificultad ofrecen los verbos." *Apuntes Lexicograficos*, etc. Introd. p. iv. This expression is conclusive as to the incorrectness of the opinion of M. Adam, and Prof. Müller above quoted, and shows how easily even justly eminent linguists may fall into error about tongues of which they have limited means of knowledge. The proper course in such a case is evidently to be cautious about venturing positive assertions.

† *Transactions of the American Philological Association*, 1872, p. 58.

‡ *Grundriss der Sprachwissenschaft*, Bd. ii, p. 387.

Algonkin or Nahuatl, it yet seems to present unmistakeable signs of both an incorporative and polysynthetic character such as would be difficult to parallel outside of America.

I am encouraged to maintain this by the recent example of the erudite Dr. Amaro Cavalcanti, himself well and practically versed in the spoken Tupi of to-day, who has issued a learned treatise to prove that "the dialects spoken by the Brazilian savages present undoubtedly all the supposed characteristics of an agglutinative language, and belong to the same group as the numerous other dialects or tongues of America."* Dr. Cavalcanti does not, indeed, distinguish so clearly between agglutinative and incorporative languages, as I should wish, but the trend of his work is altogether parallel to the arguments I am about to advance.

Fortunately, we do not suffer from a lack of materials to study the Tupi, ancient and modern. There are plenty of dictionaries, grammars and texts in it, and even an "Ollendorff's Method," for those who prefer that intellectual (!) system. †

All recent writers agree that the modern Tupi has been materially changed by long contact with the whites. The traders and missionaries have exerted a disintegrating effect on its ancient forms, and often directly in the line of erasing their peculiarities, to some of which I shall have occasion to refer.

Turning our attention first to its synthetic character, one can-

* *The Brazilian Language and its Agglutination.* By Amaro Cavalcanti, LL.B., etc., p. 5 (Rio Janeiro, 1883).

† The most valuable for linguistic researches are the following:

Arte de Grammatica da Lingua mais usada na Costa do Brazil. By Joseph de Anchieta. This is the oldest authority, Anchieta having commenced as missionary to the Tupis in 1556.

Arte, Vocabulario y Tesoro de la Lengua Guarani, ô mas bien Tupi. By Antonio Ruiz de Montoya. An admirable work representing the southern Tupi as it was in the first half of the seventeenth century.

Both the above have been republished in recent years. Of modern writings I would particularly name:

Apontamentos sobre o Abaíeênga também chamado Guarani ou Tupi. By Dr. B. C. D'A. Nogueira (Rio Janeiro, 1876).

O Selvagem i Curso da Lingua Geral. By Dr. Couto de Magalhaes (Rio de Janeiro, 1876).

not but be surprised after reading Prof. Hartt's opinion above quoted to find him a few pages later introducing us to the following example of "word building of a more than usually polysynthetic character." *

akáyu, head ; *ayú*, bad.

akayayú, crazy.

muakayayu, to seduce (make crazy).

xayumuakayayú, I make myself crazy, etc.

Such examples, however, are not rare, as may be seen by turning over the leaves of Montoya's *Tesoro de la Lengua Guarani*. The most noticeable and most *American* peculiarity of such compounds is that they are not collocations of words, as are the agglutinative compounds of the Ural-Altaic tongues, but of particles and phonetic elements which have no separate life in the language.

Father Montoya calls especial attention to this in the first words of his *Advertencia* to his *Tesoro*. He says:—"The foundation of this language consists of particles which frequently have no meaning if taken alone; but when compounded with the whole or parts of others (for they cut them up a great deal in composition) they form significant expressions; for this reason there are no independent verbs in the language, as they are built up of these particles with nouns or pronouns. Thus *ñemboé* is composed of the three particles *ñe*, *mo*, *e*. The *ñe* is reciprocal; *mo* an active particle; *e* indicates skill; and the whole means 'to exercise oneself,' which we translate, 'to learn,' or 'to teach,' indeterminately; but with the personal sign added, *anemboe*, 'I learn'."

This analysis, which Montoya carries much further, reminds us forcibly of the extraordinarily acute analysis of the Cree (Algonkin) by Mr. James Howse.† Undoubtedly the two

* *Notes on the Lingoa Geral*, as above, p. 71.

† James Howse, *A Grammar of the Cree Language* (London, 1844). A remarkable production which has never received the attention from linguists which it merits.

tongues have been built up from significant particles (not words) in the same manner.

Some of these particles convey a peculiar turn to the whole sentence, difficult to express in our tongues. Thus the element *é* attached to the last syllable of a compound gives an oppositive sense to the whole expression; for example, *ajur*, "I come" simply; but if the question follows: "Who ordered you to come?" the answer might be, *ajuré*, "I come of my own accord; nobody ordered me."*

Cavalcanti observes that many of these formative elements which existed in the old Tupi have now fallen out of use.† This is one of several evidences of a change in structure in the language, a loss of its more pliable and creative powers.

This synthesis is also displayed in the Tupi, as in the Cree, by the inseparable union of certain nouns with pronouns. The latter are constantly united with terms of consanguinity and generally with those of members of the body, the form of the noun undergoing material modifications. Thus:

tete, body; *cete*, his body; *xerete*, my body.

tuba, father; *oguba*, his father; *xerub*, my father.

mymbaba, domestic animal; *gueymba*, his domestic animal.

tera, name; *guera*, his name.

Postpositions are in a similar manner sometimes merged into the nouns or pronouns which they limit. Thus: *tenonde*, before; *guenonde*, before him.

It appears to me that the substratum, the structural theory, of such a tongue is decidedly polysynthetic and not agglutinative, still less analytic.

Let us now inquire whether there are any signs of the incorporative process in Tupi.

We are at once struck with the peculiarity that there are two special sets of pronouns used with verbals, one set subjective

* Anchieta, *Arte de Grammatica*, etc., p. 75.

† *The Brazilian Language*, etc., pp. 48-9.

and the other objective, several of which *cannot be employed in any other construction*.* This is almost diagnostic of the holo-phrastic method of speech. The pronouns in such cases are evidently regarded by the language-faculty as subordinate accessories to the verbal, and whether they are phonetically merged in it or not is a secondary question.

The Tupi pronouns (confining myself[†] to the singular number for the sake of brevity) are as follows :

Independent personals.	Possessives.	Verbal affixes.	
		Subject.	Object.
<i>ixe</i> or <i>xe</i> .	<i>se</i> or <i>xe</i> .	<i>a</i> .	<i>xe</i> .
<i>inde</i> or <i>ne</i> .	<i>ne</i> or <i>re</i> .	<i>re</i> , <i>yepé</i> .	<i>oro</i> .
<i>ae</i> or <i>o</i> .	<i>ae</i> or <i>i</i> .	<i>o</i> .	<i>ae</i> or <i>i</i> .

The verbal affixes are united to the theme with various phonetic changes and so intimately as to form one word. The grammars give such examples as :—

<i>areco</i> , I hold;	<i>guereco</i> , they hold him.
<i>ahenoi</i> , I call;	<i>xerenoi</i> , they call me.
<i>ayaca</i> , I dispute him;	<i>oroàca</i> , I dispute thee.

In the first person, singular, the two pronominal forms *xe* and *a* are usually merged in the synthesis *xa* ; as, *xamehen*, I love.

Another feature pointing to the incorporative plan is the location of the object. The rule in the old language was to place the object in all instances *before* the verb, that is, between the verb and its subject when the latter was other than a personal suffix. Dr. Cavalcanti says that this is now in a measure changed, so that when the object is of the third person it is placed after the verb, although in the first and second persons the old rule still holds good.† Thus the ancient Tupis would say :

boia aè o-sou,
snake him he-bites.

* See Anchieta, *Arte de Grammatica*, etc., p. 52.

† *The Brazilian Language*, etc., p. 111.

But in the modern tongue it is :

boia o-sou aè.

snake he-bites him.

With the other persons the rule is still for the object to precede and to be attached to the theme :

xeoroinca, I thee kill.

xepeinca, I you kill.

xeincayepe, me killest thou.

Many highly complex verbal forms seem to me to illustrate a close incorporative tendency. Let us analyze for instance the word,

xeremimboe,

which means "him whom I teach" or "that which I teach." Its theme is the verbal *mboe*, which in the extract I have above made from Montoya is shown to be a synthesis of the three elementary particles *ñe*, *mo*, and *e*; *xe* is the possessive form of the personal pronoun, "my"; it is followed by the participial expression *temi* or *tembi*, which, according to Montoya, is equivalent to "illud quod facio;" its terminal vowel is syncopated with the relative *y* or *i*, "him, it"; so the separate parts of the expression are :—

xe + tembi + y + ñe + mo + e.

I will not pursue the examination of the Tupi further. It were, of course, easy to multiply examples. But I am willing to leave the case as it stands, and to ask linguists whether, in view of the above, it was not a premature judgment that pronounced it a tongue neither polysynthetic nor incorporative.

The Mutsun.

This is also one of the languages which has been announced as "neither polysynthetic nor incorporative," and the construction of its verb as "simple to the last degree."*

* "Kein polysynthesis und keine incorporation," says Dr. Heinrich Winkler (*Uralaltaische Völker und Sprachen*, p. 149), who apparently has obtained all his knowledge of it from the two pages devoted to it by Professor Friedrich Müller, who introduces it as "äusserst einfach." *Grundriss der Sprachwissenschaft*, Bd. ii, p. 257.

We know the tongue only through the Grammar and Phrase-Book of Father de la Cuesta, who acknowledges himself to be very imperfectly acquainted with it.* With its associated dialects, it was spoken near the site of the present city of San Francisco, California.

Looking first at the verb, its "extreme simplicity" is not so apparent as the statements about it would lead us to expect.

In the first place, the naked verbal theme undergoes a variety of changes by insertion and suffixes, like those of the Quiche and Qquechua, which modify its meaning. Thus :

Ara, to give.

Arsa, to give to many, or to give much.

Arapu, to give to oneself.

Arasi, to order to give, etc., etc.

Again :

Oio, to catch.

Oiñi, to come to catch.

Oimu, to catch another, etc.

The author enumerates thirty-one forms thus derived from each verb, some conjugated like it, some irregularly. With regard to tenses, he gives eight preterits and four futures ; and it cannot be said that they are formed simply by adding adverbs of time, as the theme itself takes a different form in several of them, *aran*, *aras*, *aragts*, etc. In the reflexive conjugation the pronoun follows the verb and is united with it : As,

aragneca, I give myself,

where *ca* is a suffixed form of *can*, I ; *ne*, represents *nenissia*, oneself ; the *g*, is apparently a connective ; and the theme is *ara*. This is quite in the order of the polysynthetic theory and is also incorporative.

Such syntheses are prominent in imperative forms. Thus from the above-mentioned verb, *oio*, to catch, we have,

oiomityuts, gather thou for me,

* *Grammatica Mutsun* ; Por el R. P. F. F. Arroyo de la Cuesta ; and *Vocabulario Mutsun*, by the same, both in Shea's "Library of American Linguistics."

in which *mit* is apparently the second person *men*, with a post-position *tsa*, *mintsa*; while *yuts* is a verbal fragment from *yuyuts*, which the author explains to mean "to set about," or "to get done." This imperative, therefore, is a verbal noun in synthesis with an interjection, "get done with thy gathering." It is a marked case of polysynthesis. A number of such are found in the Mutsun phrases given, as:

Rugemitithsyuts cannis, Give me arrows.

In this compound *cannis*, is for *can* + *huas*, me + for; *yuts* is the imperative interjection for *yuyuts*; the remainder of the word is not clear. The phrase is given elsewhere

Rugemitit, Give (thou) me arrows.

Without going further into this language, of which we know so little, it will be evident that it is very far from simple, and that it is certainly highly synthetic in various features.

CONCLUSIONS.

The conclusions to which the above study leads may be briefly summarized as follows:

1. The structural processes of Incorporation and Polysynthesis are much more influential elements in the morphology of language than has been conceded by some recent writers.

2. They are clearly apparent in a number of American languages where their presence has been heretofore denied.

3. Although so long as we are without the means of examining all American tongues, it will be premature to assert that these processes prevail in all, nevertheless it is safe to say that their absence has not been demonstrated in any of which we have sufficient and authentic material on which to base a decision.

4. The opinion of Duponceau and Humboldt, therefore, that these processes belong to the ground-plan of American languages, and are their leading characteristics, must be regarded as still uncontroverted in any instance.



Brinton, Daniel G. 1886. "On Polysynthesis and Incorporation as Characteristics of American Languages." *Proceedings of the American Philosophical Society held at Philadelphia for promoting useful knowledge* 23(121), 48–86.

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