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THE KLAMATH NATION.¹

II.—LINGUISTICS.

WHEN, early in the present century, the American languages, or rather a certain number of them, and particularly those of the Algonkian, Iroquoian, Mexican, Peruvian, and Araucanian families, became the subjects of scientific study, the first emotions which this study excited were those of surprise and pleasure. The elaborate forms, the many ingenious methods of word-composition, and the singular capacity for expression thence derived, filled the first inquirers with admiration. This admiration, expressed with the enthusiasm of discoverers, naturally awakened scepticism and adverse criticism. The criticism, originating mainly in prejudice and the pride of race, and based on that partial knowledge which is sometimes more misleading than ignorance, was for the most part unfounded and unjust. The critics objected that the American languages, being those of barbarous tribes, must necessarily be inferior to the idioms of highly civilized races, like the Aryan and Semitic nations; but they forgot that the early Aryans and Semites were themselves barbarians, and yet their languages, as we know from many facts, were as well constructed and as expressive in their era of barbarism as in that of their highest culture. The objectors also informed us that the reason why the words of the American languages were of such elaborate formation and often excessive length, was simply because the speakers, being barbarians, had not attained the analyzing power required to reduce the vocables to their component parts; but further investigations have shown that many American languages, including the Dakota, the Maya, and the Othomi tongues, are in some respects even more analytic than the Aryan, and their words generally briefer. We were further told that the American idioms had not the substantive verb, which, we were assured, was the highest expression of Aryan and Semitic analysis and abstraction. But later researches have found this verb in the Athapaskan, the Sahaptin, the Klamath, and various other Indian tongues, as fully developed as in the Sanscrit or the Greek. Then we were assured that

¹ The first article — on the "Klamath Country and People" — appeared in the last number of Science. The third and concluding article — on "Klamath Mythology and General Ethnology" — will appear in the next issue.

American languages had few or no expressions for abstract ideas. We now find that some of them abound in such expressions, and have peculiar forms especially designed to indicate them. The objectors derided certain Indian languages, like the Iroquoian and the Algonkian, in which the terms of kindred must always have a possessive pronoun attached to them. How poor, they argued, must be the speech of a people who cannot say simply "father" and "son," but must always employ the composite forms, "my father," "his son," and the like. We now know that languages of this type are not universal, and that in idioms spoken by tribes lower in culture than the Algonkians and the Iroquois, the possessive pronouns are independent words, and are never attached to the nouns. Finally, these critics, all of Aryan or Semitic origin, proudly assure us that the noble races to which they belong are the only peoples whose languages are really inflected. All other idioms belong to a lower type, the "agglutinative." Their so-called inflections are simply bits of significant words, affixed to the roots, and still retaining indications of their origin. Duponceau, the first and greatest of American philologists, has long ago shown, by the evidence of the Delaware grammar, the error of this assumption; and we now have to see how completely this and most of the other objections of the worshippers of the Aryo-Semitic fetish are disproved by the results of Mr. Gatschet's careful and thorough studies.

Pure inflection, properly speaking, — that is, inflection of non-agglutinative origin, — is a change made in the substantial or radical part of a word to indicate a difference of meaning, as when the Hebrew changes the ground form of *lamar*, to learn (or "he learned"), to *lemor*, to express the imperative mood, or as when the Ojibway, to form the participle, changes *nimi*, he dances, to *namid*, dancing. In the primitive Aryan languages the most important change of this description is the reduplicative form, which in the Sanscrit, Greek, and Gothic, and occasionally in the Latin and other tongues, is used to give a preterite signification. This form of inflection occurs, with varying purport, in many American and Oceanic languages. Most generally it indicates plurality, as in the Mexican and Sahaptin idioms; but frequently it expresses (as in the Japanese and the Dakota) iteration, distribution, or other allied meanings. In the Klamath it assumes a wide development, pervading the whole language, and modifying almost all the parts of speech, from nouns and verbs even to many of the particles. Its principal functions, according to Mr. Gatschet, are iterative and distributive. But the various modifications of meaning produced by redoubling the first syllable or the first two syllables of a word, with many euphonic changes, give nice distinctions, which enrich the language to a remarkable extent. Thus from *lama*, to be dizzy, we have *lemlema*, to reel or stagger; from *palah* or *pelah*, quickly, *pelpela*, to work, to busy oneself at; from *tuéka*, to pierce, *tuektuéka*, to stare at, i.e., to pierce with the eyes; from *wita*, to blow (as the wind), *witwita*, to shake or struggle; from *mukash*, fine feathers or down of birds, *mukmukli*, downy, soft. The verb *lutatka*, to interpret, makes its frequentative mood by an abridged reduplication, *lultatka*, to interpret frequently, and hence we have the noun *lultatkuish*, a professional interpreter. So from *shiukish*, one who fights, a derivative of the verb *shiuka*, to fight, we have, by a twofold reduplication, *shish-shokish*, a warrior, and *shish'shokish*, a hero, one who has fought in many battles; and, in like manner, from *tamnuish*, one who is travelling (a derivative from *támenu*, to travel), we have *tatamnuish*, one who travels habitually, a stroller

or tramp; from *latcha*, to build, we have, in the frequentative or usitative form, *laltshish*, an architect; from *tedsha*, to wash, *tetádshish*, laundress. Almost endless examples might be given, showing the wealth of varied expressions which the language derives from this form of inflection.

Of the more ordinary class of inflections, derivational and grammatical, produced, like most of those in the Aryan tongues, by the agglutinative process, the Klamath has a vast number. Mr. Gatschet gives a list of formative affixes, filling more than a hundred quarto pages, and rivalling in extent and variety the list comprised in the second volume of Brugmann's "Comparative Grammar of the Indo Germanic Languages." The prefixes exceed fifty, and the suffixes two hundred. These affixes have sometimes internal euphonic inflections. The prefix *hash*, or *hesh*, for example, which forms causative, reciprocal, and reflective verbs, varies its vowel in a certain correspondence or euphonic correlation (though not always agreement) with the varying vowel of its radical. From *pan*, to eat, we have *háshpa*, to feed or cause to eat; from *uámpeli*, to recover, *heshuámpeli*, to restore to health; from *pínua*, to drink, *hushpanua*, to give to drink. *A* is a common suffix, which forms verbs from nouns, adjectives, and particles; *ka* is a "factitive" suffix, forming causative and transitive verbs; *ank* is the suffix which forms the present participle, like the Latin *ans* and *ens*, and the English *ing*. An example will show the fine shades of meaning in the derivatives formed by these suffixes. *Hewa* or *shewa*, to suppose, believe, think, coalesces with the reflexive prefix *hush* to form a new verb *husha*, to remember. The factitive affix *ka*, added to *husha*, produces *hushka*, to think about a thing, to study. The active participle of *hushka* is *hushkank*, thinking, studying. Adding to this the verb-forming particle *a*, we obtain the derivative verb *hushkanka*, to be reflecting or considering, to be in a certain mood or state of mind about anything. These word-forming particles yield an enormous addition to the Klamath vocabulary.

The declensions of nouns and adjectives resemble those of the Aryan languages, but are more extensive and more logically exact. There are fourteen cases, comprising, besides those of the Sanscrit, Greek, and Latin, several locative cases, and a temporal case. The latter ends in *emi* or *ám*, and signifies "during" or "at the time of;" as from *skō*, spring, we have *skoémi*, during springtime; from *kish*, sunset, *kishémi* or (contracted) *kissám*, at sunset. The accusative (or objective) case of "inanimate" nouns—corresponding to the Latin neuter—has (as in Latin) the same form as the nominative; but that of animate nouns ends in *ash*, or sometimes simply in *sh* or *a*. Thus *laki*, chief or head-man, has in the accusative *lakiash*; *muni*, great, has *muyánash*. The adjective agrees with its noun in case and number, though with some variations in the forms; thus from *muni laki*, great chief, we have in the genitive (or possessive) case *muyánam lakiam*, of the great chief; in the accusative, *muyánash* (or *munish*) *lakiash*; in the instrumental case, *muyántka lakitka*, by means of the great chief; in the directive case, *muyán'sh* (or *munish*) *lakiashtala*, toward the great chief, etc. The distributive form, which answers for the plural, has, in the nominative, *múmeni laldáki*, each great chief; in the accusative, *mumidn'sh* (or *múmenish*) *laldkiash*; in the possessive, *mumidnam laldkiam*, of each great chief; and so on, through the various cases.

Space fails for describing the conjugations of the verb, except to mention the two participles, so curiously resembling the Aryan forms, namely, the present (or indefinite),

ending usually in *ank* or *an*, and the preterite, ending in *tko* or *tk*; as from *koka*, to bite, *kokank* or *kokan*, biting, and *kokatko*, bitten. The substantive verb *gi* or *ki* (pronounced *ghee* or *kee*) has for its present participle *gian* or *giank*, being, and for its preterite *gitko*, been. As an auxiliary verb it is used, in its various inflections, with the past participle of other verbs to form the passive voice, as in *kokátko gi*, to be bitten; *kokátko giuapk*, will be bitten; *kokátko gít*, may be bitten; *kokátko giuga*, in order to be bitten. This substantive verb has a signification as abstract as the same verb in any Aryan or Semitic language, with often a wider compass of meaning, answering to both *ser* and *estar* in Spanish.

The pronouns, personal and possessive, are never combined with either the noun or the verb. What some grammarians have styled the transitions, and others the composite or objective conjugations, are therefore unknown to the Klamath, which in this respect is as analytic as the English or German, and far more analytic than either Greek or Hebrew.

Mr. Gatschet, after describing the great variety of structure in the American languages, varying from the extremely synthetic to the markedly analytic, observes that the Klamath "occupies a middle position" between these extremes, "but that, nevertheless, it shows very plainly all the characteristics of agglutinative tongues." He should have added—as his own minute and careful descriptions clearly show—"but not more plainly than these characteristics are displayed by the Sanscrit or the Greek." Liberal and philosophical as he is, he has not yet succeeded in entirely emancipating his mind from the influences of the Aryo-Semitic superstition, which is now in comparative philology what the geocentric superstition, before the time of Copernicus, was in astronomy. But he proceeds, in terms as accurate as they are elegant and forcible: "These and other characteristics impart to the language of the Maklaks a well-defined type, and approach it to the tongues of modern Europe, in which analysis has not preponderated over synthesis. An attentive study of the numerous texts obtained from the Indians [of which, it should be added, Mr. Gatschet's work furnishes an ample and most interesting collection] paired with constant comparison of Klamath structure with the structure of many foreign and American languages, could alone furnish a solid basis for establishing the grammatical rules of this upland tongue. The rhythmic, stately, and energetic tenor of its periods, especially those of the larger mythologic pieces, will please every student who has ever lent his attentive ear to the well-poised periods of Roman historians, and will even evoke comparison with them, not as to their contents, but as to the plan of the well-constructed sentences which appear in these narratives."

HORATIO HALE.

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IOWA ACADEMY OF SCIENCES.

As announced, the sixth annual session of the Iowa Academy of Sciences was held in Des Moines, on the 29th and 30th of December. Interest and enthusiasm were manifested throughout the session. Heretofore the annual meetings have been held in September, an unfortunate time for most of the scientific workers of the State. The following programme was carried out.

Professor C. C. Nutting, the president, delivered an address on "Systematic Zoology in Colleges." He urged the importance of systematic zoology in colleges. He thought